(2)

ANALYSIS AND IMPLEMENTATION

OF THE

LOGISTICS EQUIPMENT DIRECTORATE'S

PROGRAM MANAGEMENT SYSTEM

APPENDIX E

DATABASE USER'S MANUAL

Science Applications International Corporation

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PROGRAM MANAGEMENT SYSTEM

DATABASE USER'S MANUAL

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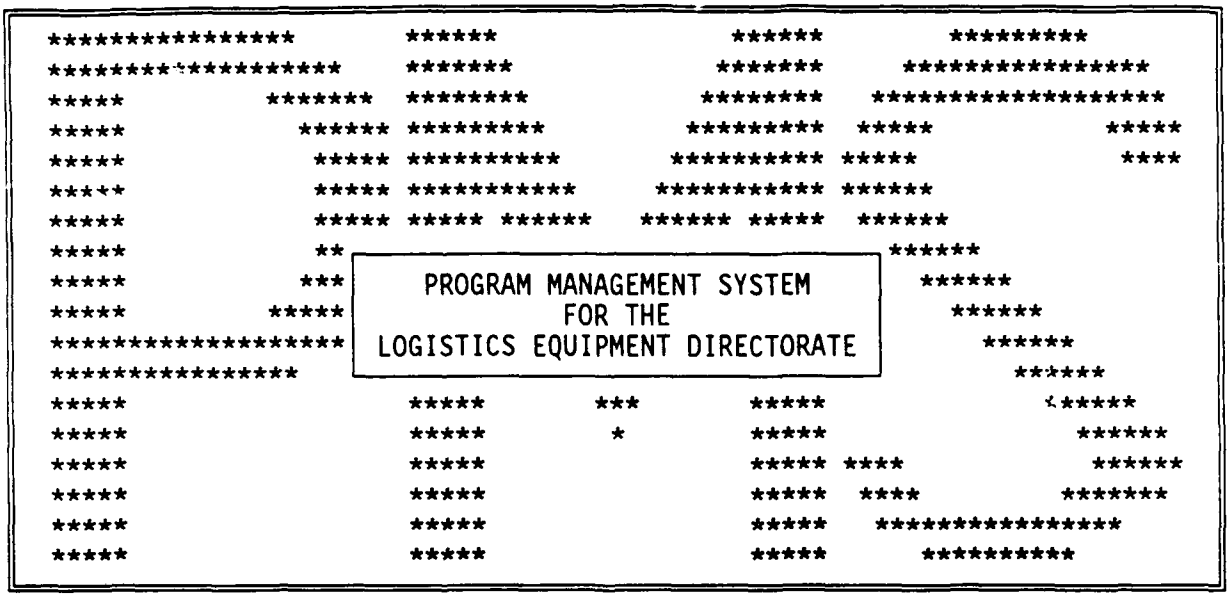
ENCLOSURES



MAINTAINED BY THE

PROGRAM MANAGEMENT DIVISION, LOGISTICS EQUIPMENT DIRECTORATE

RECOMMENDATION: *One installation of the database should serve as the "master" for file maintenance purposes. The most up to date, official data will be contained within this master database. To allow multiple users, it is necessary to make copies of the master database files which could be distributed periodically to "remote" stations.*

TERMS:

MASTER STATION: *The computer where the master database files are maintained.*

REMOTE STATION: *A computer where a copy of the database files is installed for use only.*

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1. PROGRAM MANAGEMENT SYSTEM DESCRIPTION

a. Introduction. The Program Management System (PMS) was devised to ensure effective monitoring of ongoing programs within the Logistics Equipment Directorate (LED) of the US Army Belvoir Research, Development and Engineering Center (BELVOIR). The PMS consists of three distinct parts:

(1) LED Program Schedules developed using HTPM-II Program Management Software;

(2) LED PMS Database is the depository of LED program data. Up to 18 months of program schedule information is stored in this database; and

(3) Program Management Directives (PMD), the automated query and report facility for the database.

b. Database Access. The database is available to all Division Chiefs, Team Chiefs, and Project Engineers; however, it will be maintained by the Program Management Division. Through the use of a menu-driven query application (PMD), the PMS Database is accessible to persons unfamiliar with R:BASE System V, and/or database management systems. Reports are generated from the database for periodic distributions. Two current examples of these reports are the Program Management Data Sheet (PMDS) and the Division Chief Report (DCR).

c. Data Range. The PMS contains data of ongoing programs within LED. The data were obtained from program schedules developed in Harvard Total Project Manager (HTPM II) Software. Specific information, as cited in Figure 1, was gathered for each project within the database.

DATA GATHERED FOR EACH PROGRAM
PROGRAM DATA - Project Name - PMS Number - Acronym - Proponent School - Brief Description of the Project - Project Engineer's Name, Office Symbol, and Telephone Number - Team Chief's Name, Office Symbol, and Telephone Number - Division Chief's Name, Office Symbol, and Telephone Number - Type of Program - Type of Funding - Funding Level for the Current Fiscal Year - HTPM Program Schedule (Yes/No) - Date the HTPM Schedule was Last Updated HTPM SCHEDULE DATA FOR EACH TASK AND MILESTONE - Task Name - Description - Duration (Planned and Actual) - Start Date (Planned and Actual) - Finish Date (Planned and Actual) - Percent Complete - Responsibility

FIGURE 1-1. Program Data.

d. Database Development. The PMS Database and PMD were developed using R:BASE System V, the database management software standard for LED. The program schedules were developed using HTPM II, the project management software standard for LED. The HTPM schedule data were then translated to American National Standard Code for Information Interchange (ASCII) delimited files, a format compatible with R:BASE System V.

e. Database Query Capabilities of PMD. The menu-driven query and report system (PMD) developed for the PMS Database, provides users an extensive querying capability. The queries will be specified through changes the user makes to the scope menu (see figure 1-2). The values of the scope define the specific data to be displayed.

SCOPE

1. Project.
   a. Specific project (PMS Number).
   b. All projects within a Division.
   c. All projects within the database.

2. Dates.
   a. Earliest date
   b. Latest date.
   c. No specified dates.

3. Status.
   a. All completed tasks and milestones.
   b. All incomplete tasks and milestones.
   c. Tasks and milestones completed behind schedule.
   d. Tasks and milestones incomplete and behind schedule.
   e. All tasks and milestones in the schedule(s).

4. Schedule tasks and milestones additions and deletions.
   a. Added to the schedule(s) since the last update.
   b. Removed from the schedule(s) since the last update.
   c. All tasks and milestones in the schedule(s).

5. Code.
   a. Category field only (i.e., ILS, IPR, PMDs, TC).
   b. Subject field only (i.e., AS, FOTE, HFE, TDP, TEMP).
   c. Action field only (i.e., approve, award, conduct).
   d. Any combination of category, subject, and action.
   e. All codes.

6. Output.
   a. Screen.
   b. Printer.
   c. File.

FIGURE 1-2. Scope Menu.

f. Query Examples. The following types of queries may be answered using the query program:

- Milestones where PMS number equals XYZ* and milestones are contained in BELVOIR and Army Management Milestone System (BAMMS).
- PMS numbers for programs where the program name contains STRING*.
- Tasks and milestones where category code equals ILS, completion percentage equals 100%, and Division code equals Marine.
- Tasks and milestones where category code equals IPR.
- Tasks and milestones where completion percentage equals 100% and PMS number equals XYZ.
- Tasks and milestones where Division code equals DIV* and are behind schedule.
- Tasks and milestones where Division code equals Power Generation and shall be completed prior to some specified date.
- Tasks and milestones where PMS number equals XYZ and are behind schedule.
- Tasks and milestones where PMS number equals XYZ and takes place between two dates.
- Tasks and milestones where PMS number equals XYZ and have been slipped.
- Tasks and milestones where subject code equals Acquisition Strategy and Division code equals Environmental Control.
- Tasks and milestones where subject code equals Milestone I IPR and occurs in the next six months.

PMD will find the programs meeting the condition chosen. The user is given the option of where the output is to be written (screen, data file, or printer) (see Figure 2, paragraph 6).

* DIV, STRING, and XYZ represent user specified values.

2. HARDWARE AND SOFTWARE REQUIREMENTS

The LED PMS Database requires:

- An IBM PC or PC-compatible computer with a minimum of,
  - o 540 kilobytes (Kb) of Random Access Memory (RAM)
  - o 5 1/4 inch floppy drive
  - o A minimum of 3 megabytes (Mb) of free memory on a hard disk. (Note: 5 Mb is recommended for data growth)
- R:Base System V Database Management Software
- HTPM-II Project Management Software
- Microsoft Disk Operating System (MS-DOS) version 3.1 (or greater)

NOTE:
- The database will occupy more space as projects are added or when HTPM schedule updates are loaded.
- Certain queries or relational database operations may cause the Program Management System Database to grow.
- Queries performed using PMD Query System will not cause database growth.

3. INSTALLATION

Currently, the PMS Database and PMD are contained on six (6) diskettes, five (5) for the database and one for the PMD program files. The installation is performed in MS-DOS.

a. Install R:BASE System V. If R:BASE is not already installed on your disk, follow the instructions supplied with R:BASE to install it.

b. Configuration of the Stations. The configurations of the Remote Stations and the Master Station are described below:

(1) Remote Station Configuration and PMD Installation.

1st. Creating a working area in the computer.

On your hard disk, create a directory PMS (PMS is a required name for this directory (working area)).

Example. At the C> prompt,
type C> **MD PMS** (Make Directory PMS)

2nd. Copying PMS data into the PMS directory.

a. Insert the 1st data floppy disk into the computer disk drive. Transferring of the data from the floppy to C:\PMS is accomplished by using the RESTORE command.

Example. At the C> prompt,
type C> **RESTORE A:*.* C:\PMS**
Your computer will ask you for the next disk until all the data is copied.

3rd. Installation of the application programs.

a. Insert the PMD floppy disk into the computer floppy disk drive. Type the following DOS commands at the C> prompt:

C> **CD\PMS** <press ENTER key>
C> **\MSINST**

(2) Master Station Configuration.

1st. Repeat all steps on Remote Station Configuration

2nd. Create directory HTPM-II in your hard disk.

Example C> **CD** <enter>
C> **MD HTPM-II**

This directory will store all HTPM Program Schedules in ASCII format.

4. USING THE PROGRAM MANAGEMENT SYSTEM DATABASE QUERY AND REPORT PROGRAM

a. Using PMD. The PMD query and report facility is accessed from within R:BASE System V. Before initiating R:BASE, change directories so that the current directory is PMS and set the path to the drive and directory containing R:BASE. At this time, you can initiate R:BASE.

```
C> CD\PMS
C> PATH C:\RBFILES  {If RBFILES is not the name of the directory where
                     the R:BASE system resides, then enter the correct
                     directory.}
C> RBASE
```

After a few moments, the R:BASE introductory screen, with the R:BASE logo, will appear. This will be followed by the menu shown below with option (1), "R:BASE command mode", highlighted. Press [enter] to select this option. At the "R" prompt type RUN PMD [enter].

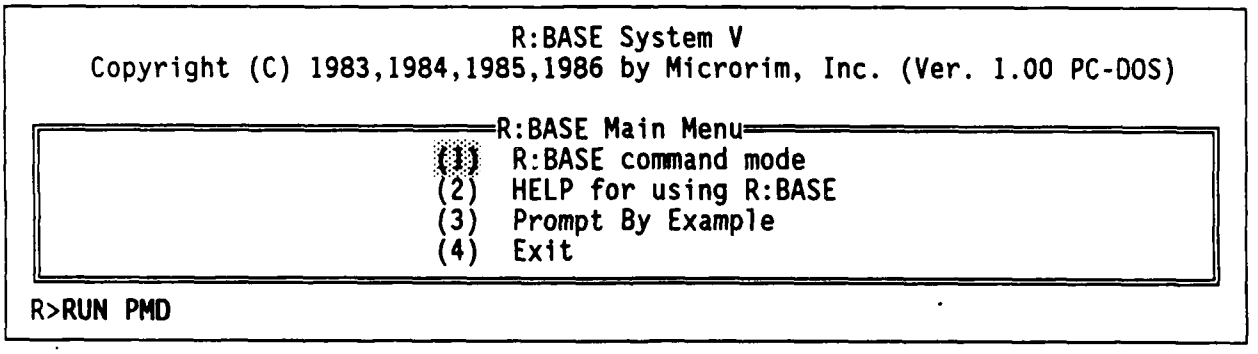


Figure 4-1. R:Base Main Menu

The following menu will appear.

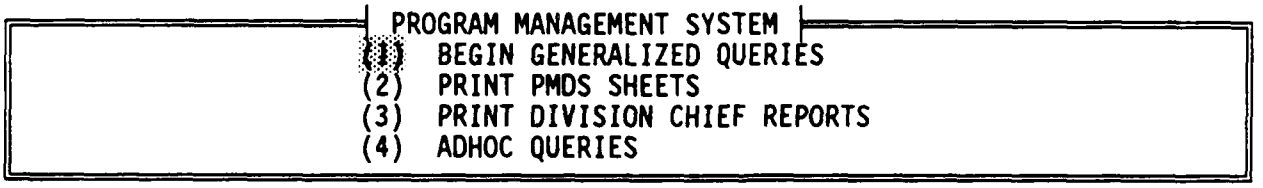


Figure 4-2. PMD Introductory Menu

This menu provides the user with the options of printing reports, running the automated query application, or to exit the system in order to perform adhoc queries. The user can select any of these options by: (1) using the up and down arrow keys or (2) typing the number by the alternative in the menu. The user can exit from this, as well as all menus used by PMD, by pressing the <esc> key. The following subsections will discuss each of the options in greater detail.

b. Performing a Query with PMD. Select option one "BEGIN GENERALIZED QUERIES" from the PMD introductory menu. The PMS title screen will appear and the environment variables will be established. The following screen will appear:

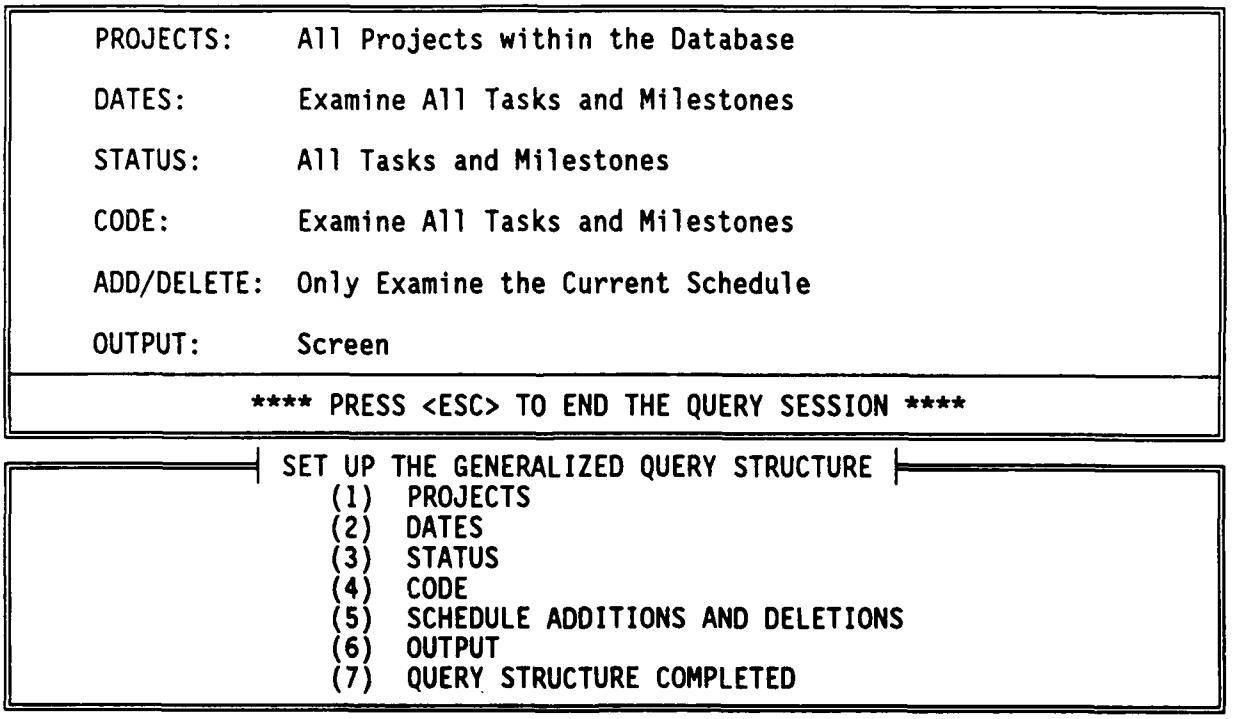


Figure 4-3. PMD Scope Option Screen

At the start of the query session, the user can choose the initial structure of the query to be performed. The defining of the query is accomplished in two phases: Phase I is the default query screening (see figure above). Phase II allows tailoring of this menu to a more specific query. By selecting any of the options (1) through (6), the user is able to individually tailor the query from the default values.

(1) Description of Phase I.

(a) Projects. This option enables the user to select the breadth of projects to be examined by this query. The user can choose to examine all Logistics Equipment Directorate projects, all projects within a Division, or a specific project (chosen by PMS number). The menu for this option is below:

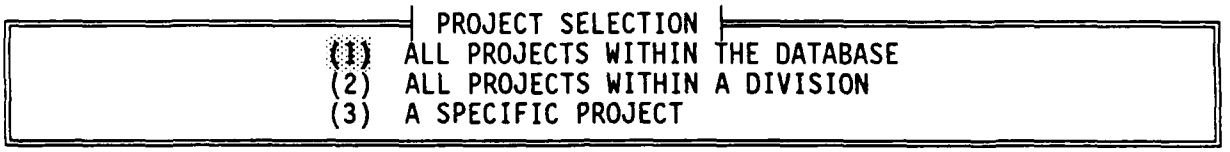


Figure 4-4. Project Selection Menu

(b) Dates. The user can choose to examine tasks and milestones which occur at any time between two dates, after a particular date, or before a particular date. If the user wants to specify a date, option (2), "CHOOSE TASKS AND MILESTONES BETWEEN SPECIFIC DATES", must be chosen. It should be noted that the specific dates will be selected in Phase II. The date menu is displayed below:

Figure 4-5. Date Selection Menu

(c) Status. This query segment allows the user to determine the status of tasks and milestones (complete, incomplete, or behind schedule). The completed tasks and milestones are derived from the completion percentage entered by the Project Engineers in their HTPM project schedules. The query program determines which tasks are behind schedule by calculating the expected completion percentage for each task and compares that to the actual completion percentage as entered by the Project Engineer. The task and milestone menu is below:

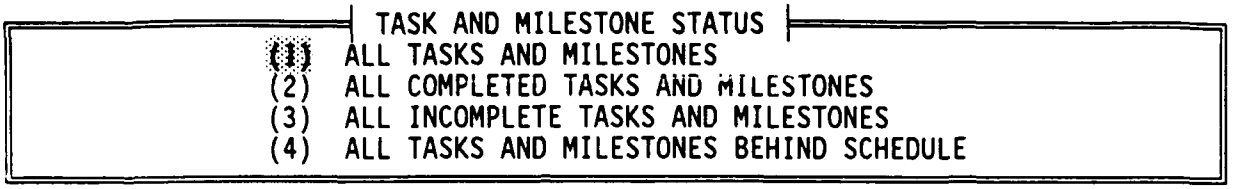


Figure 4-6. Task and Milestone Menu

(d) Code. The code selection capability is more precise than the any of the other scope criteria. This menu drives four Phase II menus. The Phase II menus allow the user to be specific in the task and milestone to be examined. The codes are divided into three sections (1) category, (2) subject, and (3) action. The user can select values for any or all of the sections. The coding was designed because of the diversity of names and descriptions used by the Project Engineers in their free form HTPM schedules and to permit the database user greater query power. The code menu is below:

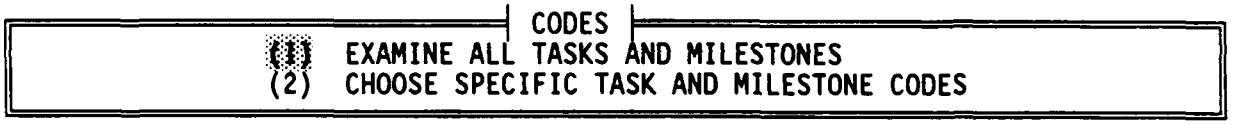


Figure 4-7. Code Menu

Option (2) avails the user of more specific query options in Phase II.

(e) Schedule Additions and Deletions. This option will allow the user to compare the current program schedule against the previous schedule. This is a slow process because of the multiple comparisons between two large tables. The user can obtain listings of tasks and milestones added to the schedule since the last update, tasks and milestones removed since the last update, or only examine the current schedule. The default option is to examine the current schedule table. The schedule additions and deletions menu is below:

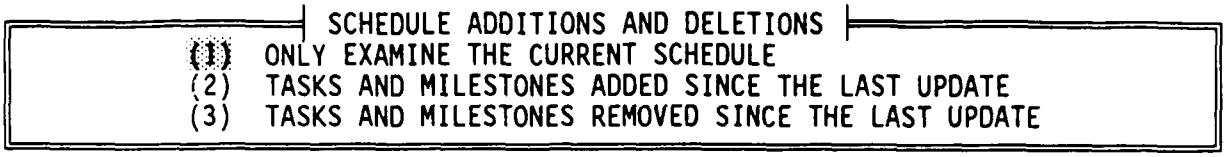


Figure 4-8. Schedule Additions and Deletions Menu

(f) Output. The user is allowed three modes for output, the screen, printer, or file. The default option is the screen. The output menu is below:

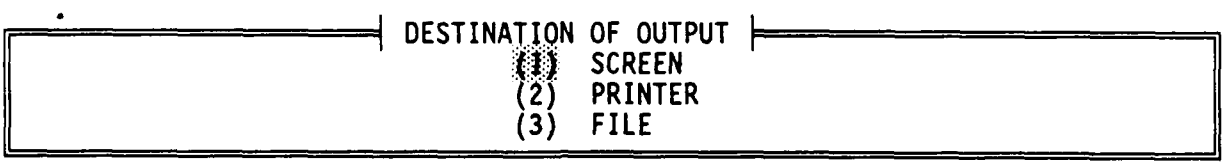


Figure 4-9. Output Section Menu

(g) Query Structure Completed. This option is entered when the user is satisfied with the options as they are presently and is prepared to enter phase 2, entering the specific values where appropriate.

(2) Phase II. The user selects detailed options for the query. Initially, the system will request specifics for all of the selections made in Phase I, where appropriate. After all of the specifics have been entered, the user will be able to modify any and all scope options. The initial menu for each scope option is the same as above; however, menus for four of the scope options are followed by additional menus or data requests.

(a) Projects. There are no additional data requests if option (1), "ALL PROJECTS IN THE DATABASE", was chosen from the project selection menu. If option (2), "ALL PROJECTS WITHIN A DIVISION", was chosen then the following menu will appear.

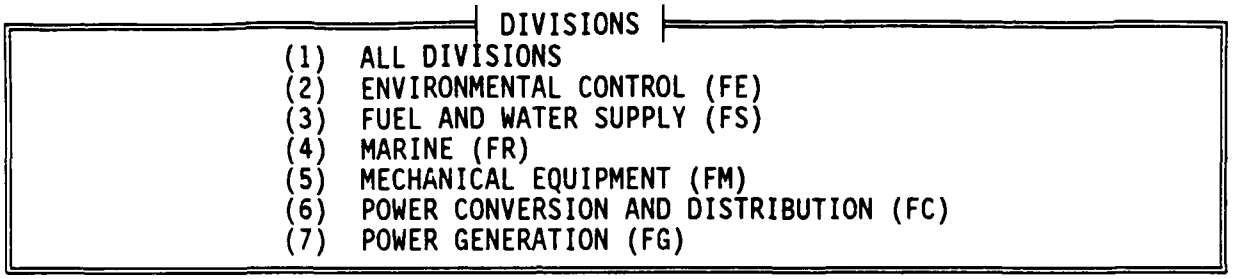


Figure 4-10. Division Selection Menu

The user can select a specific Division by using the arrow keys or typing the associated number and pressing the <enter> key. If option, (3), "A SPECIFIC PROJECT", was selected then the user would need to enter the PMS number of the specific project to be examined. The PMS number entry is done in two parts, first, the user is asked whether the PMS number is known, second the user will enter the PMS number. The entry of the PMS number would be done through the following screens.

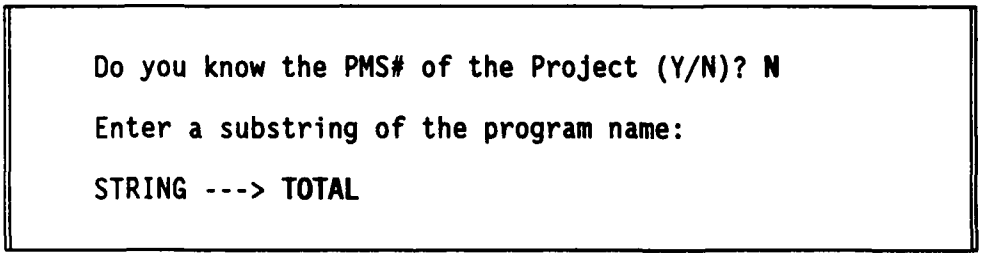


Figure 4-11. Query Screen

PMD will then look for all projects with names that contain "TOTAL" and when those programs are found they will be presented in the following screen.

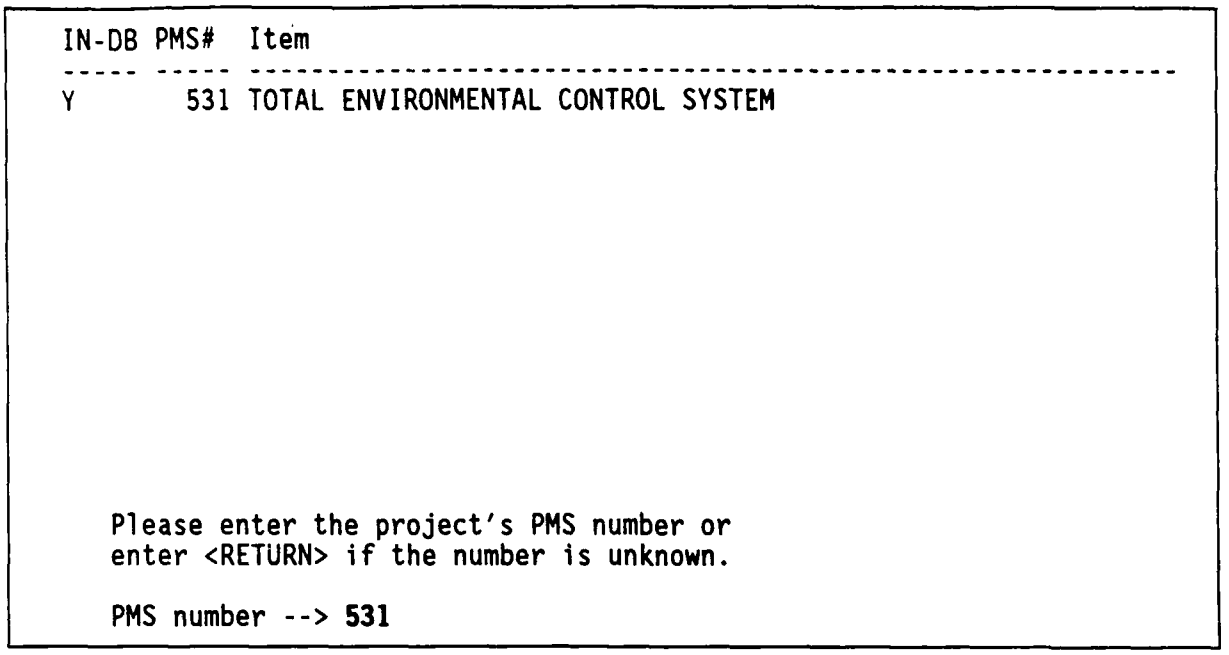


Figure 4-12. Query Screen

PMD will accept the program number and record it in the PMD Scope Option Screen for the user to review.

(b) Dates. If option (1), "EXAMINE ALL TASKS AND MILESTONES", was chosen from the date selection menu, then there will be no additional data requests. Option (1) is the default value, for this and all menus. If option (2), "CHOOSE TASKS AND MILESTONES BETWEEN SPECIFIC DATES" was chosen, the user can examine tasks and milestones which occur between two dates, occur after a specific date, or occur before a specific date. The dates are entered in the following screen.

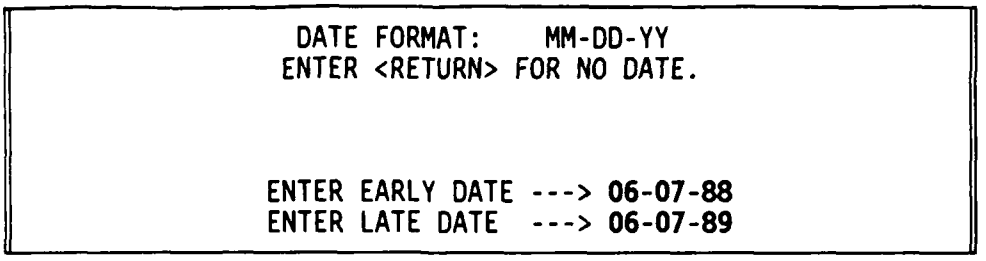


Figure 4-13. Date Selection Screen

If the user enters dates in both the EARLY DATE and LATE DATE fields, then PMD will search for tasks and milestones which occur between these dates. If the user enters a date in only the EARLY DATE field, then PMD will search for tasks and milestones which occur after the early date. If the user enters a date in only the LATE DATE field, then PMD will search for tasks and milestones which occur before the late date. PMD will accept the dates and record them in the PMD Scope Option Screen for the user to review.

(c) Code. If option (1), "EXAMINE ALL TASKS AND MILESTONES", was selected from the codes menu, then there will be no additional data requests. If option (2), "CHOOSE SPECIFIC TASK AND MILESTONE CODES", then PMD will deliver the following code selection screen.

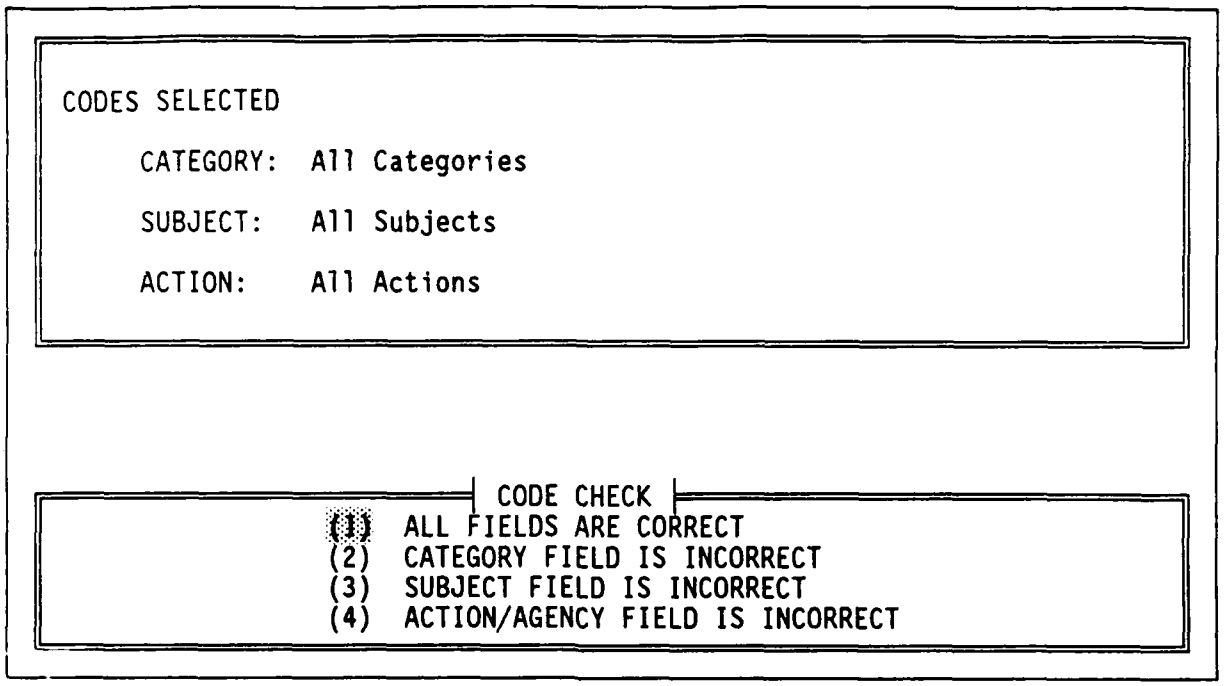


Figure 4-14. Code Selection Screen

The top portion of the above screen contains selections which have been made and the bottom portion contains the code check menu. If option (1), "ALL FIELDS ARE CORRECT", is selected from the code check menu, then the values displayed it the top portion of the screen are recorded and displayed in the PMD Scope Option Screen. Options (2) through (4) will allow the user to define the search value of a particular field in the code. If option (2), "CATEGORY FIELD IS INCORRECT", is selected then the user will be presented with a menu with the following 15 category options (see below).

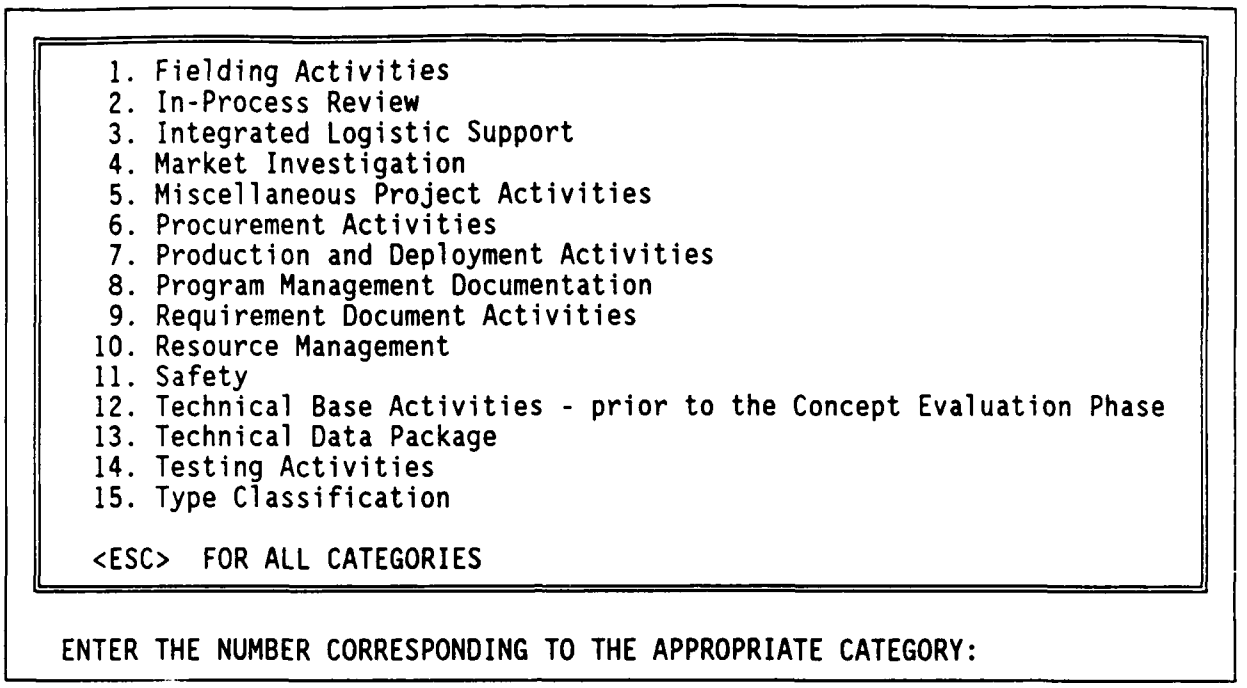
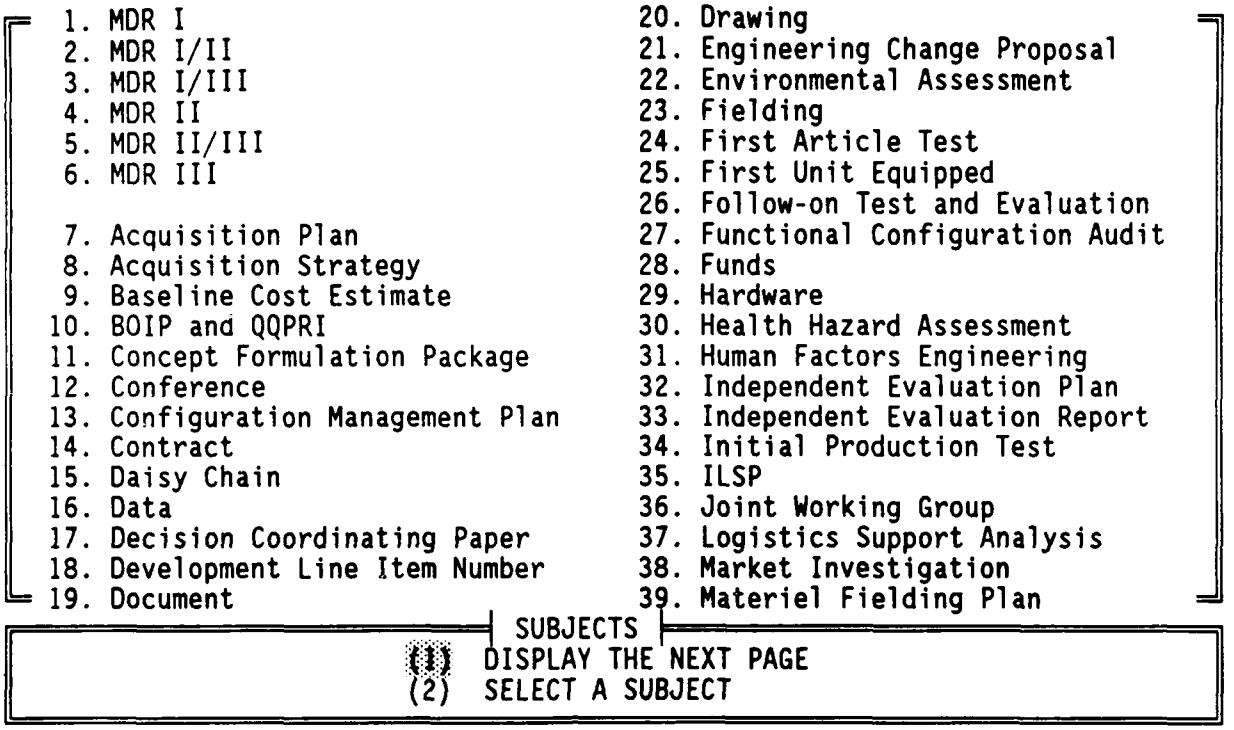


Figure 4-15. Category Selection Screen

To choose a category, type the category number and press [enter]. The user can select only one category; however, if the category selected is incorrect the user has the option of correcting it. The default is all categories. If option (3), "SUBJECT FIELD IS INCORRECT", is chosen from the code selection menu, PMD will present the following 2 screen subject menu containing 76 subjects. (NOTE: As with the category field, the user can only specify a single subject for query purposes.)



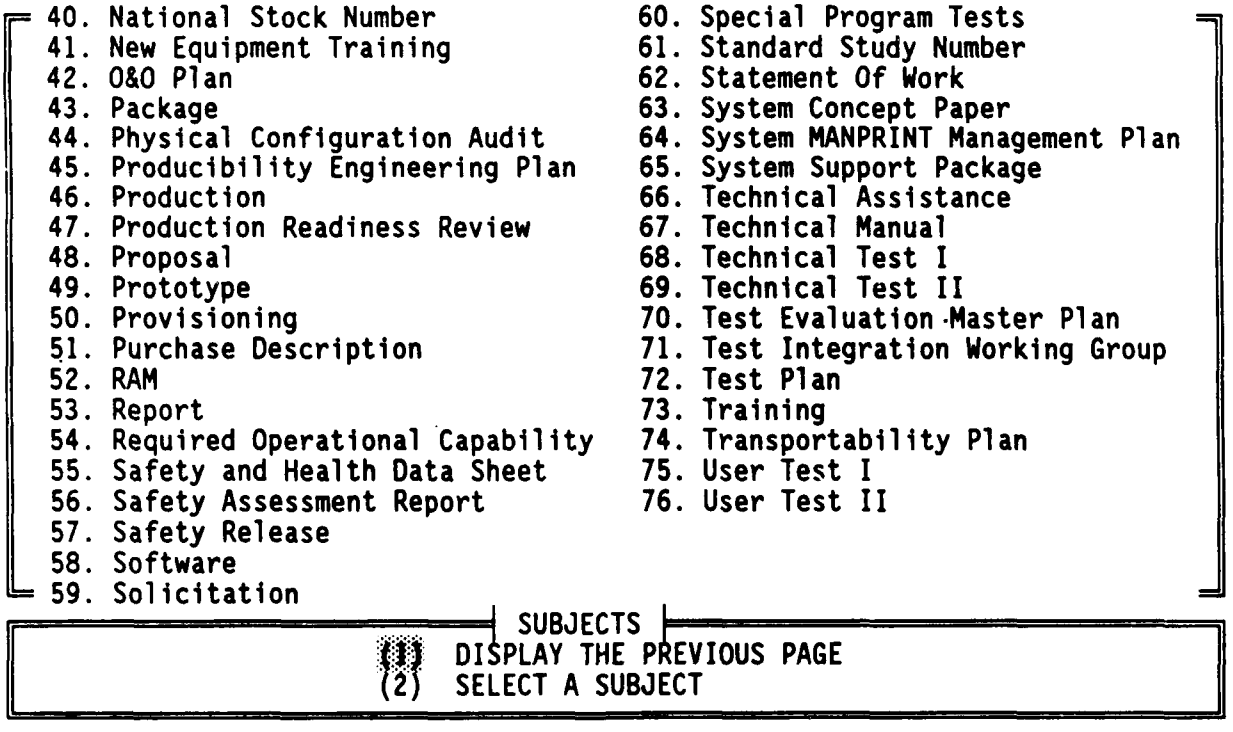


Figure 4-16. Subject Selection Screens

To view the subjects on the other screen, the user should select option (1) from the subjects menu. To choose a subject, select option (2), "SELECT A SUBJECT", from the subjects menu. PMD will then request that the user type the subject number and press <enter>. The default is all subjects and this menu can be exited by pressing the <esc> key. If option (4), "ACTION FIELD IS INCORRECT", is chosen from the code check menu (see Figure 4-14), the following actions menu will appear listing the 59 action verbs/nouns from which the user can choose. The user can either choose to change or not change the action verb, the default is all action verbs/nouns. Choosing option (1), "DISPLAY THE AGENCIES MENU", will exit the user from the menu (see Figure 4-18). Choosing option (2), "SELECT AN ACTION", will allow the user to select the action from the following list. (NOTE: Verbs/nouns with similar meanings will have the same action code.) PMD will request the number of the action the user wants to select. The selection will be displayed in the PMD Scope Option Screen.

1. appraise	21. estimate	41. prove
2. approve	22. evaluate	42. ready
3. available	23. fabricate (HDW)	43. receive
4. award	24. finalize	44. release
5. begin	25. forward	45. report
6. build (HDW)	26. forward	46. return
7. charter	27. identify	47. review
8. circulate	28. integrate (DOC)	48. select
9. complete	29. integrate (HDW)	49. ship
10. conduct	30. issue	50. staff
11. construct (HDW)	31. MARB	51. start
12. coordinate	32. MARC	52. submit
13. define	33. meeting	53. support
14. deliver	34. modify (DOC)	54. test
15. demonstrate	35. modify (HDW)	55. transfer
16. design	36. move	56. write (DOC)
17. develop (DOC)	37. notify	
18. develop (HDW)	38. perform	57. first phase
19. distribute	39. prepare (DOC)	58. second phase
20. draft (DOC)	40. process	59. third phase

ACTIONS

(1) DISPLAY THE AGENCIES MENU
(2) SELECT AN ACTION

(DOC refers to documents and HDW refers to hardware.)

Figure 4-17. Action Selection Screen

d. Output. The user is provided with three output options. The output can be directed to the screen, printer, or a file. If the screen or printer options are chosen from the destination of output menu, PMD will return to the PMD Scope Option Screen. However, if the option (3), "FILE", is selected, the following screen will appear. The user will type in the path and file name of the output file. If the <enter> key is pressed without typing a file name then the system will select the screen as the output. The user should note the warning.

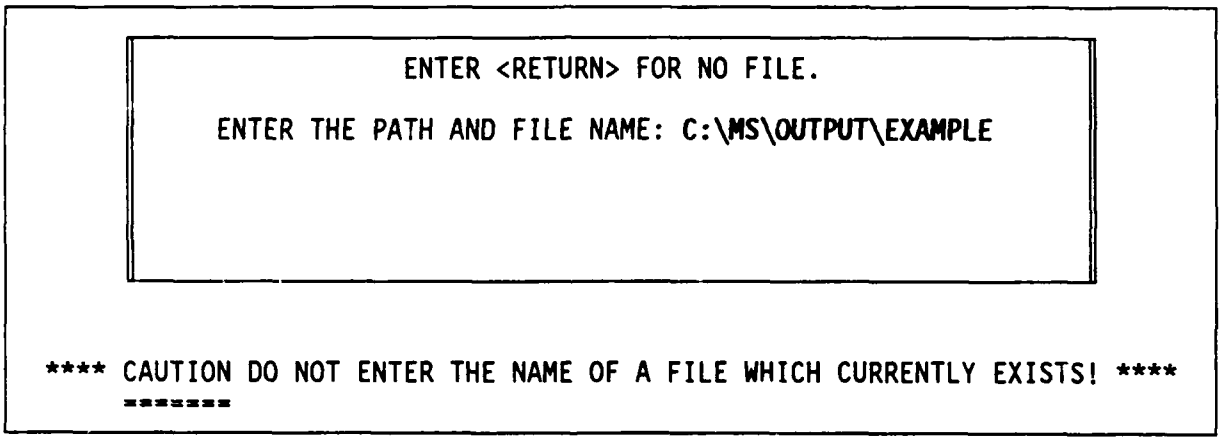


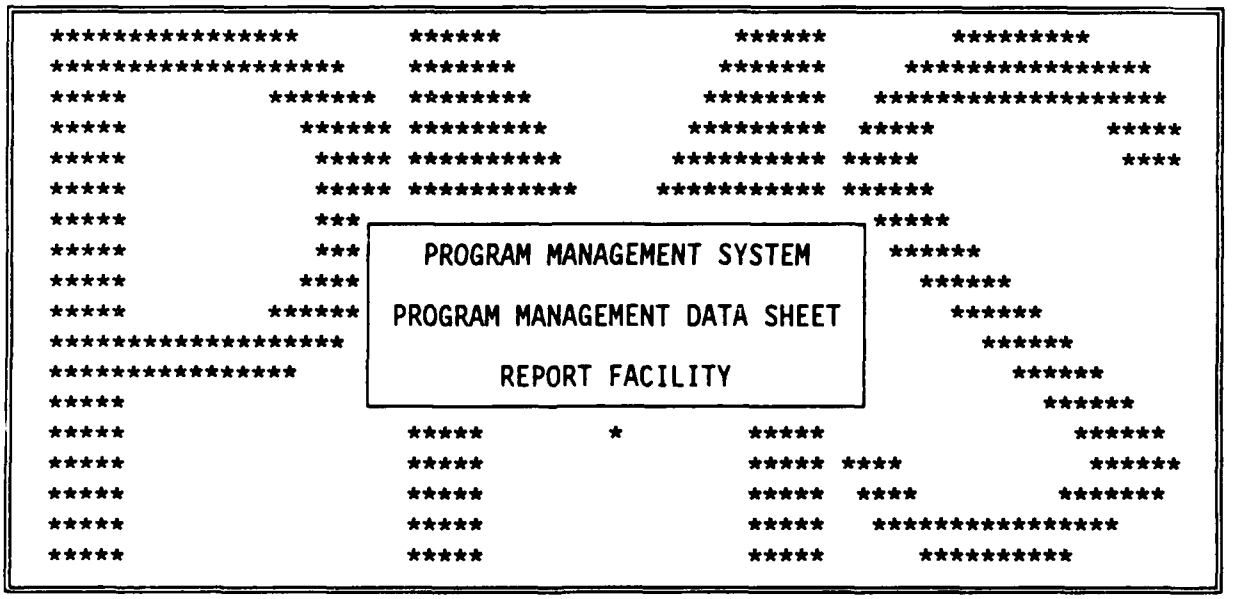
Figure 4-18. File Output Selection Screen

Below is displayed an example of a PMD Scope Option Screen with the values entered for an example query. The user would enter option (7), "QUERY STRUCTURE COMPLETED", when satisfied with the values selected.

```
PROJECTS:     All Projects within the Database

DATES:        After:  06-07-89

STATUS:       All Completed Tasks and Milestones

CODE:         Code:  TC???APR

ADD/DELETE:   Only Examine the Current Schedule

OUTPUT:       C:\MS\OUTPUT\EXAMPLE

          **** PRESS <ESC> TO END THE QUERY SESSION ****

        SET UP THE GENERALIZED QUERY STRUCTURE
            (1)  PROJECTS
            (2)  DATES
            (3)  STATUS
            (4)  CODE
            (5)  SCHEDULE ADDITIONS AND DELETIONS
            (6)  OUTPUT
            (7)  QUERY STRUCTURE COMPLETED
```

Figure 4-19. Completed PMD Scope Option Screen

c. Printing Program Management Data Sheets. To print PMDSs choose option (2), "PRINT PMDS SHEETS", from the PMD introductory menu (see Figure 4-2), after which the following screen will appear.



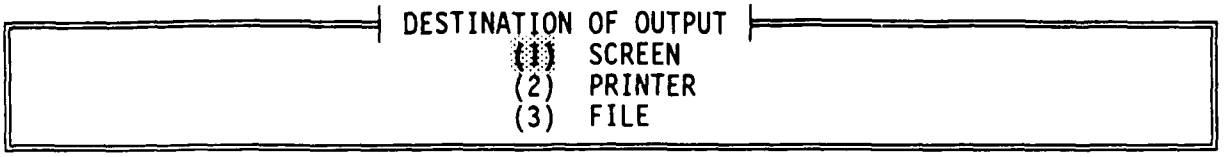


Figure 4-20. PMDSs Output Selection Screen

This is the introductory screen to the PMDS report facility of PMD. At the bottom of the screen, the user can select where the output will be sent: screen, printer, or file. If the user chooses to send the output to a file, the system will request the path and file name. The destination file naming procedure is identical to that of the Generalized Query portion of PMD. Should the printer option be chosen, the printer needs to be set with a pitch of 12 characters per inch. If a 12 pitch printer is not connected to the computer, then the output should be sent to a file for transport to a printer with 12 pitch print. Following output selection, the user is requested to select the breadth of LED to be covered by this report. Options include all projects in LED, all projects within a Division, a specific project, or to quit the PMDS report facility and return to the PMD introductory menu. The PMDS report project selection menu appears below.

Figure 4-21. PMDS Report Project Selection Screen

Option (1), "ALL PROJECTS WITHIN THE DATABASE", is the default value. Should the user choose either option (2), "ALL PROJECTS WITHIN A DIVISION", or option (3), "A SPECIFIC PROJECT", the system will request additional information in the same fashion as this information was requested in the Generalized Query portion of PMD. However, the selection verification process is different. The figures below will demonstrate the difference. The first is for the selection of all the projects in a Division. If the choice is correct the user would enter a "Y" for yes.

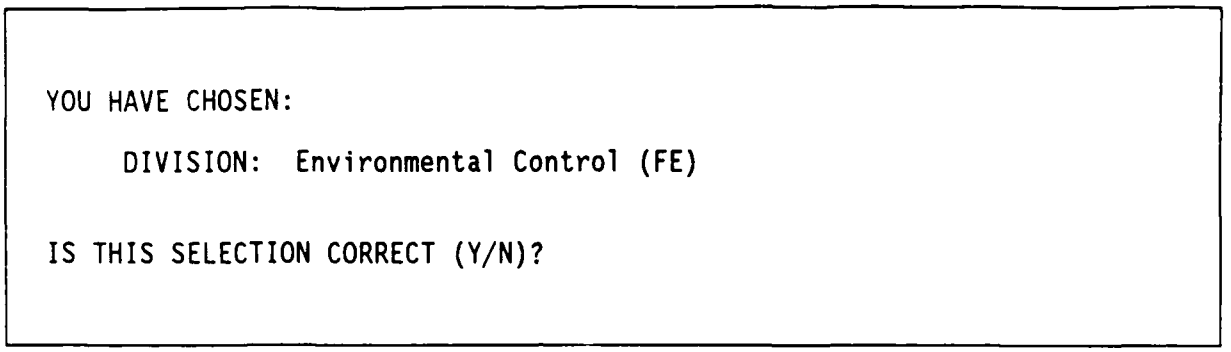


Figure 4-22. Division Verification Screen

The next figure displays the verification for a specific project, if the selection is correct, the user should respond with a "Y" for yes.

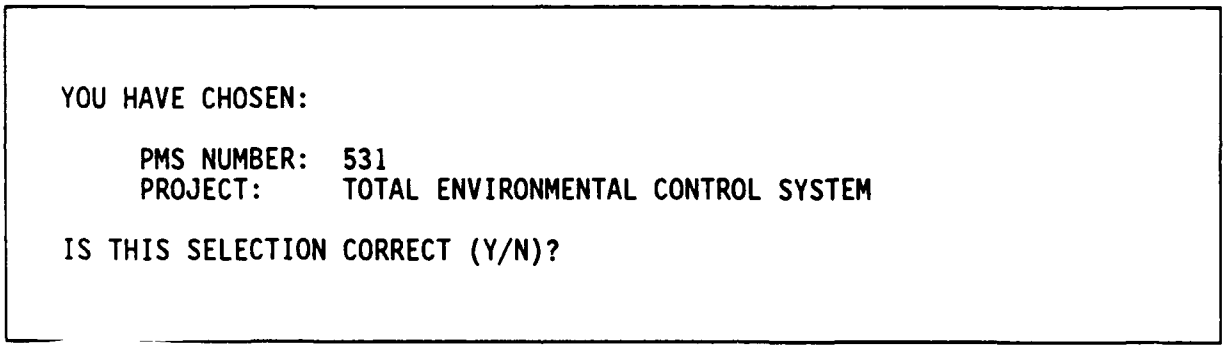


Figure 4-23. Project Verification Screen

If the selections were incorrect, the user would answer with a "N" for no and the system will request which Division or project the user is interested in. When the PMDS sheets have been generated the system will respond by asking the user whether there are additional PMDS sheets to be printed.

NOTE: If the response is affirmative ("Y"), the output was sent to a file, and the user wants to send additional output to a file; the additional output must be sent to a file with a different name. If this precaution is not taken, the data which has already been written to the file will be replaced with the new data.

d. Printing Division Chief Reports (DCRs). To print DCRs the user must choose option (3), "PRINT DIVISION CHIEF REPORTS", from the PMD introductory menu (shown in Figure 4-2), after which the following screen will appear.

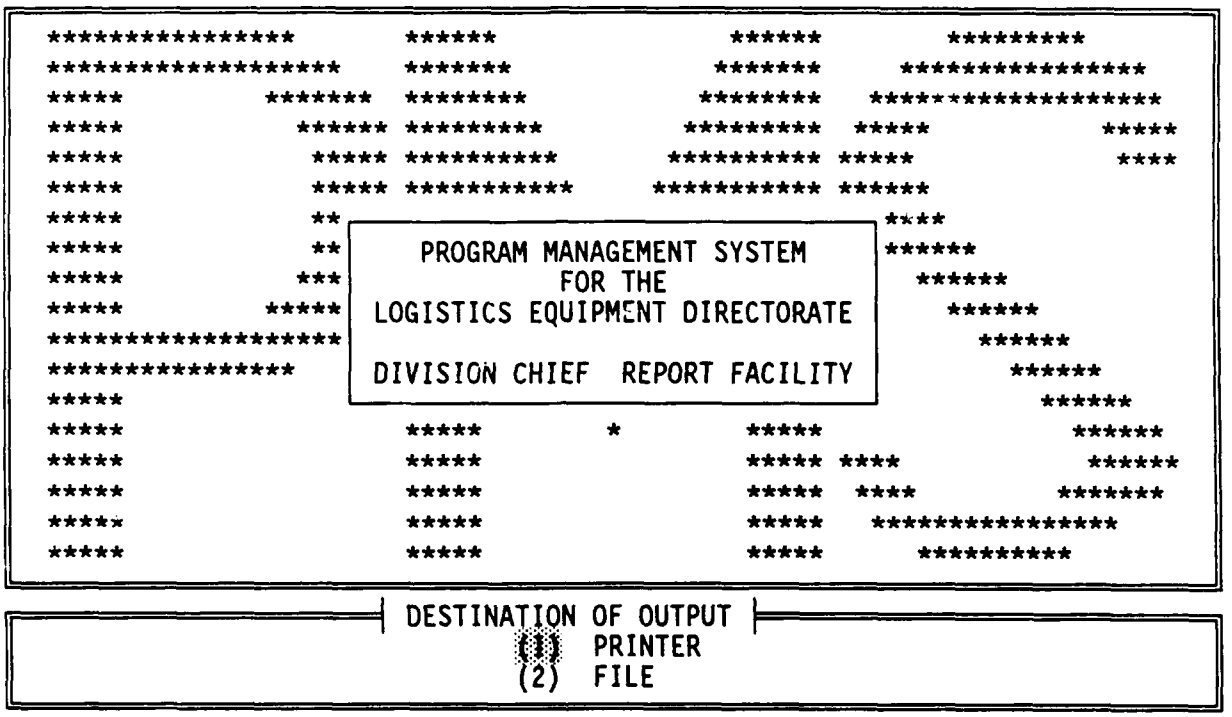
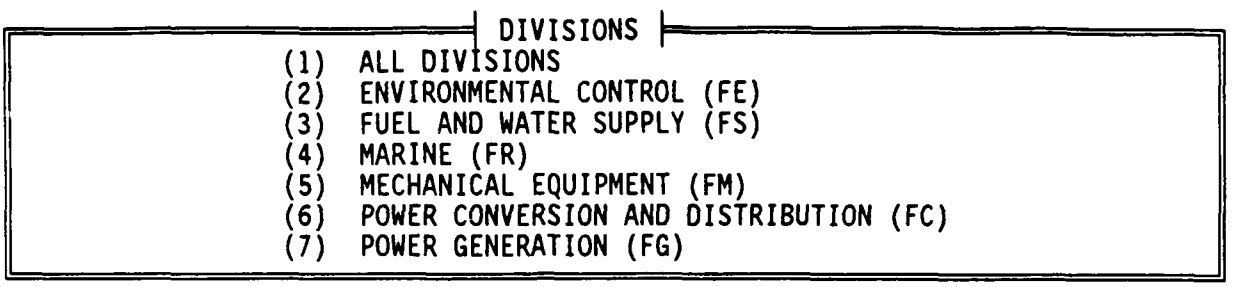


Figure 4-24. DCRs Output Selection Screen

This is the introductory screen to the DCR report facility of PMD. At the bottom of the screen the user can select the output destination either printer or file. Output was restricted to these options due to the processing time required to generate a DCR. As with the previous sections (Generalized Query and PMDS), if the user chooses to send the output to a file, the system will request the path and file name. As with the PMDS, should the printer option be chosen, be advised to set up the printer with a pitch of 12 characters per inch, otherwise, send the output should be directed to a file for transferal to a computer with a 12 pitch printer. Following output selection, the user is requested to select the breadth of the Divisions within LED to be covered during this session either all Divisions, a single Division, or quitting the DCR report facility and returning to the PMD introductory menu by pressing <Esc>. The DCR Division selection menu appears below.



PRESS <ESC> TO EXIT.

Figure 4-25. DCR Division Selection Menu

The selection verification process is similar to that of the PMDS report facility. The figure below will illustrate the procedure. The system will display the selection of a particular Division or all Divisions. If the choice is correct the user would confirm by entering a "Y" for yes.

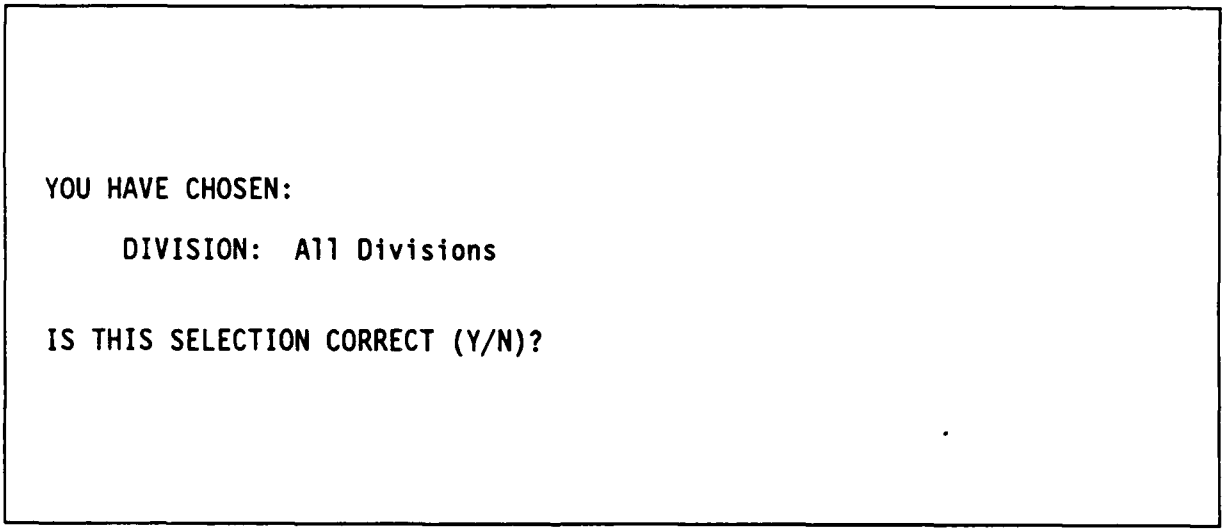


Figure 4-26. Division Verification Screen

Should the selection be incorrect, the user would answer with a "N" for no and the system will ask whether the user would like to print additional DCRs. When the DCR has been generated, the system will respond by asking the user whether there are additional DCRs to be printed.

NOTE: If the response is affirmative ("Y"), it should again be noted that if the output was sent to a file and the user wants to send additional output to a file, the additional output must be sent to a file with a different name. If this precaution is not taken, then the data which has already been written to the file will be replaced with the new data.

e. Exiting PMD. After the user returns to the PMD introductory menu, the user need only enter option (4), "ADHOC QUERIES" or press the <Esc> as directed on the screen to exit PMD. Following either procedure will result in the screen below.

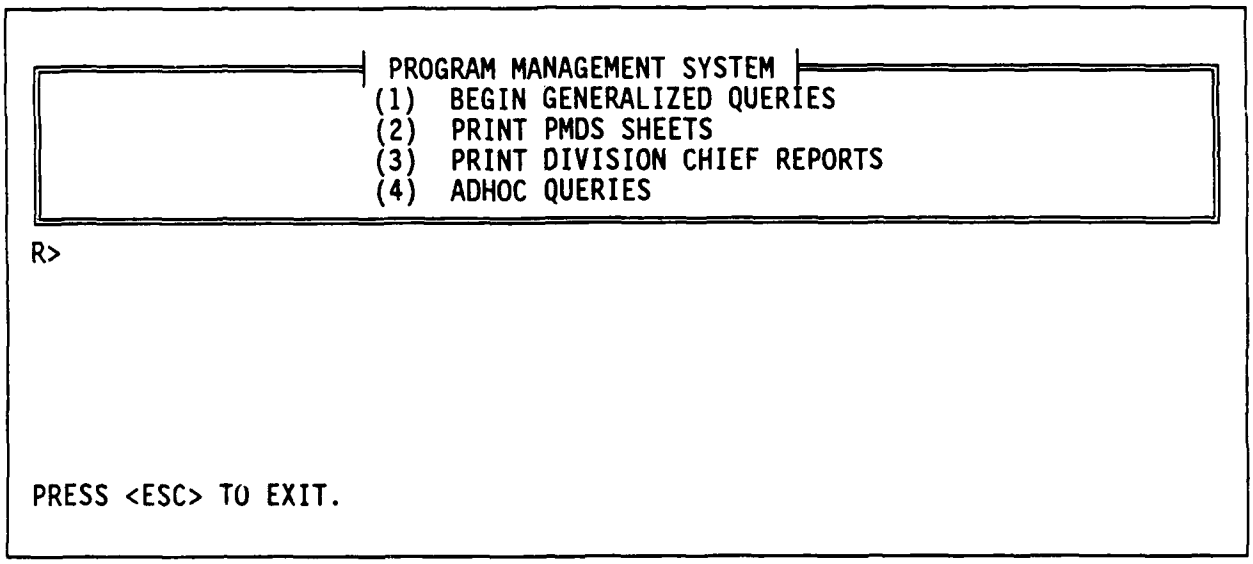


Figure 4-27. PMS Option Screen

If you would like to exit R:BASE, just type EXIT at the "R" prompt as shown below.

R> **EXIT**

This will return you to the MS-DOS operating environment.

f. Adhoc Queries. The user can also access the database directly from the "R" prompt by entering the following:

R> **OPEN MS**

This command will provide access to the database. R:BASE provides an assistant for both experienced and novice users. The assistant can be activated by entering the following command at the "R" prompt:

R> **PROMPTS**

The following assist screen will appear:

```
        Prompts are organized under these topics.
    For a list of commands that have prompts, choose All commands.

        To leave PROMPTS for R:BASE command mode, press [ESC].

Data Manipulation      Database Operations      Utilities
Look at data           Open a database          Application development
Print data             Exit                     Database maintenance
Add data               Data Input               R:BASE environment
Edit data              Data Output              Edit an ASCII file
Import/export data     Create a database        DOS functions
Relational operations  Modify a database        All commands
```

Figure 4-28. R:Base Prompt Screen

Details in how to use this option are found in your R:Base User Manual.

5. BACKING UP THE DATABASE

It is recommended that one or more backups of the latest version of the database be maintained. Furthermore, since one installation of the database is to serve as the Master Station for maintenance purposes, it is necessary to make copies of the database files to be distributed periodically to Remote Stations. The following procedures can be used to make backup copies of the database.

Use the MS-DOS BACKUP command to copy the database files onto diskettes. Obtain enough formatted diskettes to hold all of the database files. (A double density 5¼ floppy diskette will store approximately 360 Kb of data. This number can be used to determine the number of diskettes required.) The files containing the database are MS1.RBF, MS2.RBF, and MS3.RBF.

CAUTION: Any files currently in the root directory of the diskettes used for the backup will be destroyed by the BACKUP command.

If you must format any diskettes, perform the procedure below:

```
C> [drive:][\path\]FORMAT A:
```

Respond as directed by the prompts. Refer to your MS-DOS manual to answer further questions about the format command.

To backup the database use the following MS-DOS commands:

```
C> CD\MS
C> [drive:][\path\]BACKUP C:MS*.RBF A:
```

Respond to the prompts to insert the diskettes into drive A: and press a key to continue. Be sure to note on the backup diskettes which is the first, second, third, etc. (attaching labels with the relevant information would be helpful). Refer to your MS-DOS manual to answer any further questions.

6. CODING SYSTEM

The database has been organized using a simple coding system which facilitates the selection of detailed program data from a database containing diverse program data. The code consists of three parts: category, subject, and action/agency. The user can obtain information on tasks and milestones which meet permutations of the three fields. The figure below displays the structure of the code.

CATEGORY	SUBJECT	ACTION/AGENCY
2 characters	3 characters	3 characters
8 characters		

Figure 6-1. Code Layout Structure

Below there are three figures which contain the codes used in PMD. The figures are displayed in the following order (1) Categories, (2) Subjects, and (3) Actions/Agencies (the same order as in the task and milestone code).

CATEGORIES	
IL	Integrated Logistic Support
IP	In-Process Review
MK	Market Investigation
MP	Miscellaneous Project Activities
PD	Production & Deployment Phase Activities
PM	Programmatic Documentation
PR	Procurement Activities
RM	Resource Management
RQ	Requirement Document Activities
SA	Safety
TB	Technical Base Activities - prior to Concept Evaluation Phase
TC	Type Classification
TD	Technical Data Package
TS	Testing Activities

Figure 6-2. Category Code Menu

SUBJECTS	
1 Milestone Decision Review I	LSA Logistics Support Analysis
1/2 Milestone Decision Review I/II	MFP Materiel Fielding Plan
1/3 Milestone Decision Review I/III	PRL Proposal
2 Milestone Decision Review II	MKT Market Investigation
2/3 Milestone Decision Review II/III	MTL Materiel
3 Milestone Decision Review III	NET New Equipment Training
	O&O O&O Plan
AQS Acquisition Strategy	PAP Procurement Acquisition Plan
BOI Basis of Issue Plan	PCA Physical Configuration Audit
CMP Configuration Management Plan	PEP Producibility Engineering Plan
CNF Conference	PKG Package
CNT Contract	PLN Plan
COS Cost	PRR Production Readiness Review
D&V Demonstration and Validation	PRV Provisioning
DAT Data	ROC Required Operational Capability
DFT Draft	RVW Review
DOC Document	SAR Safety Assessment Report
DSY Daisy Chain	SHD Safety and Health Data Sheet
DWG Drawing	SOL Solicitation
ECP Engineering Change Proposal	SR Safety Release
FAT First Article Test	SSP System Support Package
FCA Functional Configuration Audit	STD Standard
FLD Fielding	TM Technical Manual
FND Funds	TMP Test Evaluation Master Plan
FOT Follow-on Test and Evaluation	TPL Test Plan
FUE First Unit Equipped	TRN Training
HHA Health Hazard Assessment	TRP Transportability Plan
HDW Hardware	TT1 Technical Test I
IEP Independent Evaluation Plan	TT2 Technical Test II
IER Independent Evaluation Report	TWG Test Working Integration Group
INV Investigation	UT1 User Test I
JWG Joint Working Group	UT2 User Test II

Figure 6-3. Subject Code Menu

ACTION VERBS/NOUNS			
appraisal	EVL	integrate	PRP - DOCUMENTS
approve	APR		FAB - HARDWARE
available	AVL	issue	
award	AWD	MARB	MRB
build	FAB - HARDWARE	MARC	MRC
charter	CHT	meeting	MTG
circulate	CRD	modify	PRP - DOCUMENTS
completed	CMP		FAB - HARDWARE
conduct	CND	notify	CRD
construction	FAB - HARDWARE	prepare	PRP
coordinate	CRD	process	CND
define	IDY	prove	DEM
deliver	DLV	ready	AVL
demonstrate	DEM	received	RCV
design	DSN	release	RLS
develop	PRP - DOCUMENTS	report	RPT
	FAB - HARDWARE	return	CRD
distribute	CRD	review	REV
estimate	EVL	select	SLT
evaluate	EVL	start	SRT
fabricate	FAB - HARDWARE	submit	SUB
finalize	FNL	support	SPT
forward	CRD	transfer	TFR
identify	IDY	update	UPD
install	FAB - HARDWARE		

Figure 6-3. Action Verb/Noun Code Menu

AGENCIES	
All Agencies	???
Contractor	CTR
Customer	CUS
Defense Logistic Agency (DLA)	DLA
Department of Defense (DOD)	DOD
Department of the Army (DA)	DA
General Services Administration (GSA)	GSA
Government	GVT
Occupational Safety and Health Administration (OSHA)	OSA
Office of Management and Budget (OMB)	OMB
Program Management Division (PMD) (BELVOIR)	PMD
Solider Support Center, National Capital Region (SSC-NCR)	SSC
The Adjutant General (TAG)	TAG
US Army Belvoir Research, Development and Engineering Center (BELVOIR)	BEL
US Army Depot System Command (DESCOM)	DES
US Army Development Employment Agency (ADEA)	ADA
US Army Engineer School (USAENS)	ENS
US Army Equipment Authorization Review Activity (EARA)	ERA
US Army Forces Command (FORSCOM)	FOR
US Army Human Engineering Laboratory (HEL)	HEL
US Army Laboratory Command (LABCOM)	LAB
US Army Logistic Center (LOGCEN)	LOG
US Army Logistics Evaluation Agency (USALEA)	LEA
US Army Materiel Command (AMC)	AMC
US Army Materiel Readiness Support Activity (MRSA)	MRS
US Army Military Traffic Management Command (MTMC)	MTM
US Army Operational Test and Evaluation Agency (OTEA)	OTE
US Army Quartermaster School	QMS
US Army Tank-Automotive Command (TACOM)	TAC
US Army Test and Evaluation Command (TECOM)	TEC
US Army Training and Doctrine Command (TRADOC)	TRA
US Army Troop Support Command (TROSCOM)	TRO

Figure 6-4. Agency Code Menu

ANNEX B

PROGRAM MANAGEMENT DATA SHEET

This Annex contains the PMDS used in the Validation Test. It has subsequently been revised. The revised version is at Appendix C of the Final Technical Report.

LOGISTICS SUPPORT DIRECTORATE
PROJECT MANAGEMENT DATA SHEET

GENERAL: The purpose of this document is to obtain data from Logistics Support Directorate (LSD) Division Chiefs, Team Chiefs, and Project Engineers (PEs) concerning new and on-going acquisition projects assigned to LSD. Data provided by this document will be used by Program Management Division (PMD) personnel to develop Harvard Total Project Manager (HTPM) milestone schedules for use by PEs, Team Chiefs, Division Chiefs, and LSD management personnel. Additionally, the data will be placed in a R:Base System V data base for use by all LSD project management personnel. This data sheet is designed to reduce the administrative burden on Division level personnel. The initial completion will require some time, but follow-on updates will require no more than 15 minutes every month or as significant changes occur in a project's status.

SECTION A (General Information)

Program Name_____ PMS#_____ Date_____

Project Engineer_____ Tele #_____
Team Chief _____ Tele #_____
Division Chief _____ Tele #_____

Type Report: New Project_____ (Complete entire report).
Update _____ (Complete only areas that have changed since last report).
Cancel Project____ (No further entries necessary).

Proponent:_____

Program Type:
Contract Support____ PIP____ Customer____ Prod. Support____
Engineer Support____ Tech Base Research____ NDI____ VE ____
RDTE_____ ASAP___ MACI (NDI-A)_____

Current FY Funding Level_____ Type of Funding (6.2,6.4,etc)___

SECTION B (Brief Description of the Project)

_____

_____

_____

_____

SECTION C (Critical Milestone Data)

This section contains critical milestones necessary for a PE to manage a typical project. The milestones are not necessarily in the order of a tailored acquisition process. Fill in the estimated dates and actual dates (if known) for each milestone listed. If a milestone is not applicable to the project, enter "NA". The standard field descriptions and Army Codes have also been provided to assist in making your own HTPM schedule, if desired.

Milestone	Field Description	Code	Est. Date	Actual Date
O&O Plan MARC	O&O PLN MARC	B0350		
O&O Plan Approved	O&O PLAN APR	AMMS1005		
Initial AS MARC	INIT AS MARC	B0450		
Acquisition Strategy Dev	AQ STRAT DEV	AMMS1006		
Market Investigation Complete	MAR INV COMP	AMMS1020		
Rqd. Operational Cap. MARC	ROC MARC	None		
ROC Aprv by HQ TRADOC	ROC APPROVED	AMMS1047		
MARB Convened MDR I	MARB MDR I	AMMS1087		
Initial Production Readiness	PRR COMP	AMMS1090		
IPR Milestone Decision Rev I	MILESTONE 1	AMMS1999		
IPR Milestone Decision Rev II	MILESTONE 2	AMMS2999		
D&V Contract Award	D&V AWARD	AMMS2015		
Technical Test I Start	TT I START	AMMS2130		
Technical Test I Complete	TT I COMP	AMMS2140		
User Test I Start	UT I START	AMMS2180		
User Test I Complete	UT I COMP	AMMS2190		
Full Scale Development Award	FSD AWARD	AMMS3001		
Technical Test II Start	TT II START	AMMS3240		
Technical Test II Complete	TT II COMP	AMMS3250		
User Test II Start	UT II START	AMMS3300		
User Test II Complete	UT II COMP	AMMS3310		
MARB Convened MDR III	MARB MDR III	AMMS3795		
IPR Milestone Dec Rev III	MILESTONE 3	AMMS3999		
Production Contract Award	PROD AWARD	AMMS4005		
First Unit Equipped Date	FUED	AMMS4620		
IPR Milestone Dec Rev I/II	MILESTONE 12	B1083		
Proof of Principle Award	POP AWARD	None		
IPR Milestone Dec Rev I/III	MILESTONE 13	None		
MARC for BELVOIR's IPR	PRE-IPR MARC	None		
Special IPR	SPECIAL IPR	None		
Proof of Principle Award	POP AWARD	None		
Proof of Principle Test Start	POPT START	None		
Proof of Principle Test Comp	POPT COMP	None		
Follow-on T&E Start	FOT&E START	None		
Follow-on T&E Complete	FOT&E COMP	None		
First Article Test Start	FAT START	None		
First Article Test Complete	FAT COMP	None		
Proc. Acquisition Plan MARC	PAP MARC	None		
Req. Oper. Capability MARC	ROC MARC	None		
Proveout Award	PROVOUT AWRD	None		

SECTION D (Milestones/Tasks Occurring in the Next 18 Months)

This section contains additional milestones and tasks that could occur during the course of an acquisition program. Below each major heading are tasks and milestones that must be considered if they are scheduled to occur within the next 18 months. Blanks are also provided under each major heading to permit you to enter any tasks/milestones that you desire to list in order to effectively manage your project. Standardized field descriptions and codes are provided for those PEs desiring to develop their own HTPM schedules. PEs who desire PMD personnel to develop a HTPM schedule for them should either (1) fill in the estimated start and finish dates for each milestone/task expected to occur in the next 18 months, or (2) enter the start date of each of the events you wish to schedule and provide estimated duration times (in work days) for all task/milestones you have added (Changes to the stated estimated durations are permitted). In the latter case, earliest and latest start dates will be computed automatically by HTPM software using estimated duration times provided. NOTE: Milestones listed in Section C are not repeated in this section.

Task/Milestone	Field Description	Code	Est. Duration (Workday)	Start Date	Finish Date
Test and Evaluation Master Plan (TEMP):					
TIWG Established	TIWG CHARTER	None	0	____	____
IEP Received From TRADOC	IEP TRADOC	None	60	____	____
IEP Received From TECOM	IEP TECOM	None	60	____	____
IEP Approved	IEP APPROVED	None	0	____	____
Prepare TEMP	PREPARE TEMP	None	22	____	____
Send out TEMP for Comment	SENDOUT TEMP	None	22	____	____
TIWG Meeting	TIWG MEETING	None	0	____	____
TEMP Developed	TEMP DEVELOP	AMMS1055	0	____	____
_____	_____	_____	____	____	____
_____	_____	_____	____	____	____
_____	_____	_____	____	____	____
_____	_____	_____	____	____	____
Acquisition Strategy (AS):					
TIWG Established	TIWG CHARTER	None	0	____	____
Write Acquisition Strategy	PREPARE AS	AMMS1006	20	____	____
Initial AS MARC	INIT AS MARC	B0450	0	____	____
_____	_____	_____	____	____	____
_____	_____	_____	____	____	____
_____	_____	_____	____	____	____
_____	_____	_____	____	____	____

(Section D Cont.)

Task/Milestone	Field Description	Code	Est. Duration (Workday)	Start Date	Finish Date
Independent Evaluation (IE):					
IEP Received From TRADOC	IEP TRADOC	None	60		
IEP Received From TECOM	IEP TECOM	None	60		
IEP Approved	IEP APPROVED	None	0		
IER Received From TRADOC	IER TRADOC	None	60		
IER Received From TECOM	IER TECOM	None	60		
IER Approved	IER APPROVED	None	0		
BOIP/QQPRI Events:					
BOIP Feeder Data Submitted	BOIP FED DAT	AMMS2095	8		
BOIP Approved	BOIP APPROVD	AMMS2250	0		
Integrated Logistic Support (ILS):					
Prepare ILSP	PREPARE ILSP	None	30		
TROSCOM ILSP	TROSCOM ILSP	None	90		
ILS Mgt Team Meeting	ILSMTMEETING	AMMS1030	0		
SUBCOM ILSP	SUBCOM ILSP	None	90		
Technical Data Package (TDP):					
Starting & Completing Date	START COMP	None	0		
Packaging of Data	PACKAGING	None			
Material	MATERIAL	None			
Safety	SAFETY	None			
Engine (When Used)	ENGINE	None			
Quality & Reliability	Q & R	None			
Initial Document Draft	DRAFT STDZN	None			
Type & Print Document	TYPE & PRINT	None			
Circulation of Document	CIRCUL DOC	None			
Res. & Prep. Final Draft	RESOLVE COMS	None			
Final Draft Standardized	FINAL DRAFT	AMMS3175			
Type, Aprv, Number, & Date	TYPE & APR	None			
Submit ECP	SUBMIT ECP	None			

ENCLOSURE 1: TEXT DATA FIELDS USED IN THE PROGRAM MANAGEMENT SYSTEM DATABASE

TABLE 1 - The following table contains the PMS number and name of each program in the database sorted by the program name.

PMS NUMBER	PROGRAM NAME
228	10KW 28V AVIATION DC GENERATOR SET (START CART)
383	15 AND 30 KW NOISE KITS
60	150,000 BTUH MULTIFUEL ARMY SPACE HEATER
685	20KW REGENCY NET POWER UNIT
830	25 TON ALL TERRAIN CRANE
143	2KVA POWER CONDITIONER
727	3 PERSON PNEUMATIC BOAT/ENGINEERING SUPPORT
427	3000 GPH REVERSE OSMOSIS WATER PURIFICATION UNIT (ROWPU)
21421	3KW FREE PISTON STIRLING
858	3KW MAN PORTABLE GENERATOR SET
20792	4K ELECTRIC/PNEUMATIC FORKLIFT
20791	6K#/6K# FRONT/SIDE LOADER
144	6KVA POWER CONDITIONER
229	750KW, 60 HZ GENERATOR SET
793	ADVANCED PULSE POWER (HI-POWER MICROWAVE)
28061	AIR TRANSPORTABLE LIFTING DEVICE - 15K
28062	AIR TRANSPORTABLE LIFTING DEVICE - 42K
758	ARAPAHO
882	ARMY OIL ANALYSIS MOBILE LABORATORY
20794	AUTHORIZED STOCKAGE LIST (ASL) VAN
645	AUTOMATED PIPELINE EQUIPMENT SYSTEM
844	BOAT, LANDING, INFLATABLE ASSAULT CRAFT (M238)
841	CANTILEVERED ELEVATED CAUSEWAY (R097)
414	CAUSEWAY (FLOATING) ENGINEERING SUPPORT
840	CAUSEWAY FERRY ENGINEERING SUPPORT
65	COMBAT VEHICLE ENVIRONMENTAL SUPPORT SYSTEM
718	COMMERCIAL GENERATOR SET AND ASSEMBLAGES
23621	DEPLOYABLE MEDICAL SYSTEM
371	DISTRIBUTION/ILLUMINATION SET, ELECTRICAL
861	DIVING AIR CONTROL CONSOLE

PMS NUMBER	PROGRAM NAME
729	EXTREME ENVIRONMENT
798	FIELD HOSPITAL UNIT SYSTEM
20793	FLEX PALLET SYSTEM
832	HI TECH REVERSE OSMOSIS WATER PURIFICATION UNIT (ROWPU)
714	INLINE VEHICLE GENERATOR
848	INTELLIGENT LOAD MANAGEMENT
411	LANDING CRAFT UTILITY (LCU) - 2000 ENGINEERING SUPPORT
839	LARGE TUG - ENGINEERING SUPPORT
20814	LCM - 8 SLEP [WATERCRAFT PROD IMPROVE PGM-OMA DIRECT(DISP CRAFT)]
4.2	LOGISTIC SUPPORT VESSEL
159	M113 ELECTRIC DRIVE PROJECT
829	MODULAR BASE PETROLEUM LABORATORY
493	PATRIOT 150KW TURBINE GENERATOR SET
668	PU-617 DIESEL REPLACEMENT
29	PULSE POWER
606	REPAIR OUTFIT FOR THE REPAIR OF COLLAPSIBLE TANKS AND DRUMS
413	RORO DISCHARGE PLATFORM ENGINEERING SUPPORT
74	ROUGH TERRAIN CONTAINER STRADDLE TRUCK
722	SELF DEPLOYABLE MATERIALS HANDLING EQUIPMENT
734	SIGNATURE SUPPRESSED DIESEL ENGINE DRIVEN (SSDED) GENERATOR SET
363	SINGLE CHANNEL OBJECTIVE TACTICAL TERMINAL (SCOTT)
838	SMALL TUG - ENGINEERING SUPPORT
528	STABILIZATION OF SHIP/LIGHTER INTERFACE
531	TOTAL ENVIRONMENTAL CONTROL SYSTEM
88	TRIDENT II BOXCAR
403	UNIT BASIC LOAD-UPLOAD EQUIPMENT
20795	UNIVERSAL CRANE SPREADER
721	UNIVERSAL SELF-DEPLOYABLE CARGO HANDLER
494	WATER PURIFICATION COMPONENTS

ENCLOSURE 1

TABLE 2 - The following table contains the PMS number and name of each program in the database sorted by the PMS number.

PMS NUMBER	PROGRAM NAME
29	PULSE POWER
60	150,000 BTUH MULTIFUEL ARMY SPACE HEATER
65	COMBAT VEHICLE ENVIRONMENTAL SUPPORT SYSTEM
74	ROUGH TERRAIN CONTAINER STRADDLE TRUCK
88	TRIDENT II BOXCAR
143	2KVA POWER CONDITIONER
144	6KVA POWER CONDITIONER
159	M113 ELECTRIC DRIVE PROJECT
228	10KW 28V AVIATION DC GENERATOR SET (START CART)
229	750KW, 60 HZ GENERATOR SET
363	SINGLE CHANNEL OBJECTIVE TACTICAL TERMINAL (SCOTT)
371	DISTRIBUTION/ILLUMINATION SET, ELECTRICAL
383	15 AND 30 KW NOISE KITS
403	UNIT BASIC LOAD-UPLOAD EQUIPMENT
411	LANDING CRAFT UTILITY (LCU) - 2000 ENGINEERING SUPPORT
412	LOGISTIC SUPPORT VESSEL
413	RORO DISCHARGE PLATFORM ENGINEERING SUPPORT
414	CAUSEWAY (FLOATING) ENGINEERING SUPPORT
427	3000 GPH REVERSE OSMOSIS WATER PURIFICATION UNIT (ROWPU)
493	PATRIOT 150KW TURBINE GENERATOR SET
494	WATER PURIFICATION COMPONENTS
528	STABILIZATION OF SHIP/LIGHTER INTERFACE
531	TOTAL ENVIRONMENTAL CONTROL SYSTEM
606	REPAIR OUTFIT FOR THE REPAIR OF COLLAPSIBLE TANKS AND DRUMS
645	AUTOMATED PIPELINE EQUIPMENT SYSTEM
668	PU-617 DIESEL REPLACEMENT
685	20KW REGENCY NET POWER UNIT
714	INLINE VEHICLE GENERATOR
718	COMMERCIAL GENERATOR SET AND ASSEMBLAGES
721	SELF DEPLOYABLE MATERIALS HANDLING EQUIPMENT
722	UNIVERSAL SELF-DEPLOYABLE CARGO HANDLER

PMS NUMBER	PROGRAM NAME
727	3 PERSON PNEUMATIC BOAT/ENGINEERING SUPPORT
729	EXTREME ENVIRONMENT
734	SIGNATURE SUPPRESSED DIESEL ENGINE DRIVEN (SSDED) GENERATOR SET
758	ARAPAHO
793	ADVANCED PULSE POWER (HI-POWER MICROWAVE)
798	FIELD HOSPITAL UNIT SYSTEM
829	MODULAR BASE PETROLEUM LABORATORY
830	25 TON ALL TERRAIN CRANE
832	HI TECH REVERSE OSMOSIS WATER PURIFICATION UNIT (ROWPU)
838	SMALL TUG - ENGINEERING SUPPORT
839	LARGE TUG - ENGINEERING SUPPORT
840	CAUSEWAY FERRY ENGINEERING SUPPORT
841	CANTILEVERED ELEVATED CAUSEWAY (R097)
844	BOAT, LANDING, INFLATABLE ASSAULT CRAFT (M238)
848	INTELLIGENT LOAD MANAGEMENT
858	3KW MAN PORTABLE GENERATOR SET
861	DIVING AIR CONTROL CONSOLE
882	ARMY OIL ANALYSIS MOBILE LABORATORY
20791	6K#/6K# FRONT/SIDE LOADER
20792	4K ELECTRIC/PNEUMATIC FORKLIFT
20793	FLEX PALLET SYSTEM
20794	AUTHORIZED STOCKAGE LIST (ASL) VAN
20795	UNIVERSAL CRANE SPREADER
20814	LCM - 8 SLEP [WATERCRAFT PROD IMPROVE PGM-OMA DIRECT(DISP CRAFT)]
21421	3KW FREE PISTON STIRLING
23621	DEPLOYABLE MEDICAL SYSTEM
28061	AIR TRANSPORTABLE LIFTING DEVICE - 15K
28062	AIR TRANSPORTABLE LIFTING DEVICE - 42K

TABLE 3 - The following table contains the schools or proponent agencies and the associated codes used in the database.

SCHOOL	DATABASE ENTRY
US Army Materiel Command	AMC
US Army Missile and Munitions Center and School	AMMCS
US Army Signal Center and School	ACS
US Army Armor Center and School	ARMC
US Aviation Center and Fort Rucker	AVNC
US Army Aviation Logistics and Transportation School	AVNLOG
US Army Combined Arms Center and Development Activity	CACDA
Customer	CUSTOMER
US Army Engineer School	ENS
US Army Infantry School	IS
US Army Ordnance Missile Munitions Center and School	OMMCS
US Army Quartermaster School	QMS
US Army Tank and Automotive Command	TACOM
US Army Training and Doctrine Command	TRADOC
US Army Transportation School	TRANS
US Army Troop Support Command	TROSCOM
The Surgeon General	TSG
US Army Ordnance Center and School	ORDCS
Project Manager - Amphibians & Watercraft	PM-AWC
Project Manager - Mobile Electric Power	PM-MEP
Project Manager - Petroleum & Water Logistics	PM-PWL

TABLE 4 - The following table contains program types and the associated entries used in the database.

PROGRAM TYPE	DATABASE ENTRY
Army Streamlined Acquisition Process	ASAP
Contract Support	CNTR SUP
Customer	CUSTOMER
Engineering Support	ENGR SUP
Military Adaption of a Commercial Item	MACI
Nondevelopment Item	NDI
Product Improvement Program	PIP
Production Support	PROD SPT
Research, Development, Test, and Evaluation	RDTE
Technical Data Package Update	TDP UPD
Technology Base Research	TECH BSE
Value Engineering	VE

ENCLOSURE 2: STRUCTURE OF THE PROGRAM MANAGEMENT SYSTEM DATABASE

AMMS-COM
This table contains comments concerning the status of AMMS and BELVOIR milestones. Specifically, why milestones have been slipped, missed, or are not applicable.
AMMS-DAT
The table containing the HTPM data for the AMMS and BELVOIR milestones in schedules previously developed by the Project Engineers. At each update the AMMS and BELVOIR milestones will be transferred from the ROADMAPS table. (Page 6) NOTE: The loading procedure will replace the milestones in the AMMS-DAT table which has the same code number and transfer all AMMS and BELVOIR milestones found in ROADMAPS table.
PROGRAMS
The table containing the background data for the programs within the database. This table may include programs for which there is not a HTPM schedule loaded; therefore this table provides a space holder for programs to be added. (Page 3)
ROADMAPS
The table containing the schedule data which has been loaded from the HTPM II schedules developed by the Project Engineers. (Page 4)
OLDMAPS
The table containing the schedule data which was loaded from the HTPM II schedules developed by the Project Engineers during the previous update. (Page 4)
OLDMAPS2
The table containing the schedule data which was loaded from the HTPM II schedules developed by the Project Engineers during the update conducted two periods ago. (Page 4)

FIGURE 1. Descriptions of the Data Tables in the Database

AMMS This table contains is the milestones which comprise the BELVOIR and Army Management Milestone System (BAMMS). These milestones were obtained from Department of the Army Pamphlet 700-26, the list of BELVOIR standard milestones, and additional milestones required by the Logistics Equipment Directorate.
CODING This table is used by the PMD query application when the user chooses to search the database for tasks and milestones which have a particular milestone code.
FORMS This table contains the data entry and editing forms used by the database.
ORPHANS This table contains the names of the files within the HTPM ASCII data file directory which are not associated with any programs within the database. (Page 7)
PMDS2 This table is used by the Program Management Data Sheet (PMDS) report facility. This table, when loaded by the PMDS report facility application, comprises the data required for the second page of the report.
PMDS-CAT This table is used by the PMDS report facility application. The application uses this table when sorting the tasks and milestones by categories of the PMDS.
REPORTS This table contains all of the output reports used by the database.
NOTE: The above tables are only to be modified by the database administrator or persons instructed to by the database administrator. Improper alteration of these tables can result in invalidating the PMD application.

FIGURE 2. Description of the Tables Required for Operating PMD.

TABLE: PROGRAMS			
COLUMN NUMBER	NAME	TYPE	DESCRIPTION
1	ITEM	TEXT	The name of the program.
2	ACRONYM	TEXT	The program acronym.
3	PMS#	INTEGER	The unique program identification number.
4	PE	TEXT	The name of the Project Engineer.
5	PE.PHONE	INTEGER	The Project Engineer's office phone number.
6	OFF.SYM	TEXT	The office symbol of the Project Engineer.
7	TC	TEXT	The name of the Team Chief.
8	TC-PHONE	INTEGER	The Team Chief's office phone number.
9	DC	TEXT	The name of the Division Chief.
10	DC-PHONE	INTEGER	The Division Chief's office phone number.
11	REPORT	TEXT	Is the schedule an updated or new program?
12	SCHOOL	TEXT	The proponent school.
13	TYPEPROG	TEXT	The type of program (i.e., RDTE, NDI).
14	FNDLEVEL	CURRENCY	The level of funding for this project during this fiscal year.
15	TYPEFUND	TEXT	The type of funding (i.e., CUSTOMER, OMA)
16	DESCRIPT	TEXT	A brief description of the program.
17	MEMO	TEXT	Notes about this program.
18	MS-CHRT	TEXT	Is there a milestone chart, [Y]es or [N]o?
19	UPDATED	DATE	The date when the milestone chart was last updated.
20	IN-DB	TEXT	Is this milestone chart in the database, [Y]es or [N]o?
21	SCRATCH	TEXT	A scratch field used during queries as a flag.
22	DIVISION	TEXT	The program's division office symbol.

FIGURE 3. The Structure of the Table PROGRAMS.

TABLE: ROADMAPS OLDMAPS OLDMAPS2			
COLUMN NUMBER	NAME	TYPE	DESCRIPTION
1	PMS#	INTEGER	The program identification number.
2	TASKNAME	TEXT	The name of the node from the schedule.
3	DESCRIBE	TEXT	Description field from the node in the schedule.
4	START	DATE	The computer generated start of this task.
5	FINISH	DATE	The computer generated finish of this task.
6	PLAN-ST	DATE	The date that the Project Engineer plans to start this task.
7	PLAN-FN	DATE	The date that this task will be completed based upon the planned start date and the planned duration.
8	PLAN-DUR	REAL	The planned duration of the task in work days.
9	ACT-ST	DATE	The actual start date of the task, if the task is being performed.
10	ACT-FN	DATE	The actual finish date of the task, if the task has been completed.
11	ACT-DUR	REAL	The actual number of days it took to complete this task.
12	EARLY-ST	DATE	The earliest date that this task can begin.
13	EARLY-FN	DATE	The earliest date that this task can be completed.
14	LATE-ST	DATE	The latest date that this task can begin.
15	LATE-FN	DATE	This is the latest that this task can be completed and maintain the schedule.
16	EARLY-CN	DATE	This is inserted by the Project Engineer as the early-constraint.
17	LATE-CN	DATE	This is inserted by the Project Engineer as the late-constraint.
18	COMPLETE	REAL	The completion percentage.
19	SLACK	REAL	The number of days available before the task becomes critical. (Tasks on the critical path have 0 slack.)
20	CODE-FLD	TEXT	Project Engineer's personalized code for the particular task.

FIGURE 4. The Structure of the Tables ROADMAPS, OLDMAPS, and OLDMAPS2 (CONTINUED).

TABLE: ROADMAPS (CONTINUED) OLDMAPS OLDMAPS2			
COLUMN NUMBER	NAME	TYPE	DESCRIPTION
21	RESPONSI	TEXT	The organization/person responsible for the completion of the task.
22	SCHEDULE	TEXT	The name of the HTPM project schedule that this task belongs.
23	CODE#	TEXT	The code used for the R:Base queries.
24	AMMS	TEXT	The code associated with the task or milestone (i.e., AMMS, BELVOIR)?
25	SCRATCH	TEXT	A scratch field used during queries as a flag.
26	SCRATCH2	TEXT	A scratch field used during queries as a flag.
27	X	REAL	A scratch field used during queries as a computation field.
28	Y	REAL	A scratch field used during queries as a computation field.
29	Z	REAL	A scratch field used during queries as a computation field.

FIGURE 4. *The Structure of the Tables* ROADMAPS, OLDMAPS, and OLDMAPS2 (CONTINUED).

TABLE: AMMS-DAT			
COLUMN NUMBER	NAME	TYPE	DESCRIPTION
1	TASKNAME	TEXT	The name of the node from the schedule.
2	DESCRIBE	TEXT	Description field from the node in the schedule.
3	EARLY-ST	DATE	The earliest date that this task can begin.
4	EARLY-FN	DATE	The earliest date that this task can be completed.
5	LATE-ST	DATE	The latest date that this task can begin.
6	LATE-FN	DATE	This is the latest that this task can be completed and maintain the schedule.
7	PLAN-ST	DATE	The date that the Project Engineer plans to start this task.
8	PLAN-FN	DATE	The date that this task will be completed based upon the planned start date and the planned duration.
9	SLACK	REAL	The number of days available before the task becomes critical. (Tasks on the critical path have 0 slack.)
10	COMPLETE	REAL	The completion percentage.
11	AMMS	TEXT	The code associated with the task or milestone (i.e., AMMS, BELVOIR)
12	CODE-FLD	TEXT	Project Engineer's personalized code for the particular task.
13	RESPONSI	TEXT	The organization/person responsible for the completion of the task.
14	SCHEDULE	TEXT	The name of the HTPM project schedule that this task belongs.
15	PMS#	INTEGER	The program identification number.
16	SCRATCH	TEXT	A scratch field used during queries as a flag.
17	CODE#	TEXT	This is the code used for R:Base queries.

FIGURE 5. The Structure of the Table AMMS-DAT.

TABLE ORPHANS			
COLUMN NUMBER	NAME	TYPE	DESCRIPTION
1	FILENAME	TEXT	The name of the HTPM ASCII files found in the HTPM ASCII data directory, for which either the project has not been entered into the database or the file had an improper name.
2	PMS#	INTEGER	This field is the program identification number and has been left open for the database operator's use.

FIGURE 6. The Structure of the Table ORPHANS.

ENCLOSURE 3: EXAMPLES OF A BATCH FILE TO RUN FROM MS-DOS

A BATCH FILE WHICH WILL INITIATE PROGRAM MANAGEMENT SYSTEM DATABASE QUERY AND REPORTING SYSTEM

```
REM ************************************************************************
REM This is a SPECIAL example batch file for running PMD.  This batch
REM file calls R:BASE System V and initiates operation of the
REM application PMD.  SAIC, 13-JUN-88
REM ************************************************************************
REM 1.  The REM statements are comments for the person editing this
REM     batch file and not actual MS-DOS commands.
REM
REM 2.  In the following lines [drive1:] and [path1:] refer to the drive
REM     and path where the R:BASE files are located and [drive2:] and
REM     [path2:] refers to the drive and path where data base is
REM     located.
REM
REM 3.  To tailor this batch file to your system, replace the [drive:]
REM     and [\path\] which those associated with your system.
REM ************************************************************************
REM
REM (If RBFILES is not the correct name of the directory where your
REM  R:BASE system is located, then enter the correct directory.
REM  EXAMPLE:  C:\DATABASE\RBFILES or C:\RBASE)
CD [drive1:][\path1\]RBFILES
[drive2:]
CD [drive2:]\MS
PATH [drive1:][\path1\]RBFILES
[drive1:]\[path1\]RBFILES\RBASE -P PMD
REM The following line returns the path to the MS-DOS directory
REM on your hard disk.
[drive:]\[path\]MS-DOS
```

ENCLOSURE 4: CREATING THE HARVARD TOTAL PROJECT MANAGER ASCII DATA FILES

1. Start Harvard Total Project Manager II (HTPM II) in the usual method. The main menu screen will appear as follows:

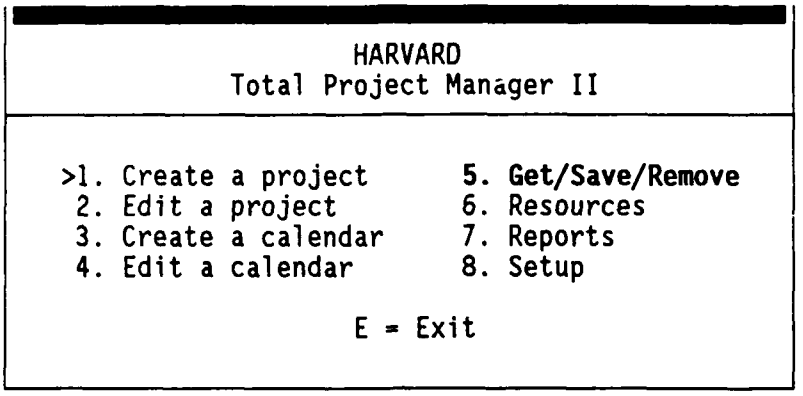


FIGURE 1. Main Menu Screen.

Choose option 5, "Get/Save/Remove", to get your project. (Some familiarity with HTPM II is assumed.)

2. Return to the main menu and choose option 7, Reports.

3. The Reports menu screen will now appear. Using the arrow pad on your keyboard, move down the Text Reports column to the "Task & Milestone List". At this point, hit function key F2, Options.

4. A pull down menu will appear with two options:
   1. Run report
   2. Format report

   Choose option 2, "Format report". The "Order columns for Task & Milestone List" screen will appear. The order of the fields in the ASCII file is critical; the ordering ensures that the correct field is loaded in the correct column in the data base. The proper ordering is listed below in Figure 2:

1.	Description	11.	Earliest finish
2.	Start date	12.	Latest start
3.	Finish date	13.	Latest finish
4.	Planned start	14.	Early constraint
5.	Planned finish	15.	Late constraint
6.	Planned duration	16.	% Complete
7.	Actual start	17.	Slack
8.	Actual finish	18.	Code
9.	Actual duration	19.	Responsible
10.	Earliest start	20.	Project Name

FIGURE 2. Field Ordering.

To enter the proper field order number, move your cursor, using the arrow pad, to the field you want to change and type in the number. Be sure to check that the order is correct and that there are no duplicate entries. An example of the screen is provided below in Figure 3.

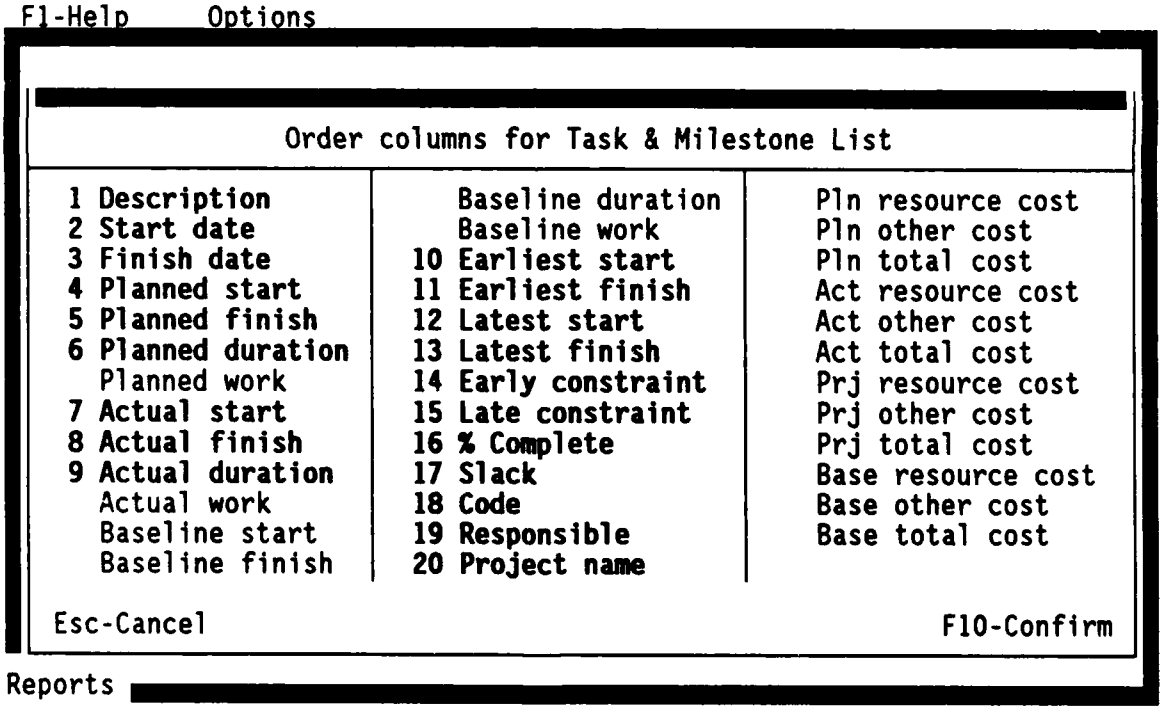


FIGURE 3. Order Columns for Task and Milestone List.

When all changes have been completed, hit function key F10, "Confirm".

The next screen to appear will ask for the configuration of the output data. It will not be necessary to edit these screens. Press F10 until you are returned to Reports main screen (hit F10 twice).

5. Press function key F2. The pull down menu described in step 4 will appear. Choose option 1, "Run report". The "Text report options" block will appear on the screen. Three options will be entered: "Filename", "Print to", and "Pause between pages". For "Filename", enter the PMS number of your project; for "Print to", use the arrow keys to toggle the shading to "Disk File"; and, for "Pause between pages", use the arrow keys to toggle the shading to "No". Now enter F10, "Confirm". See Figure 4.

HTPM will now ask what type of a file to output, "Choose file type". Using your arrow pad, move your cursor to the final option "Delimited ASCII" and press F10. See Figure 5.

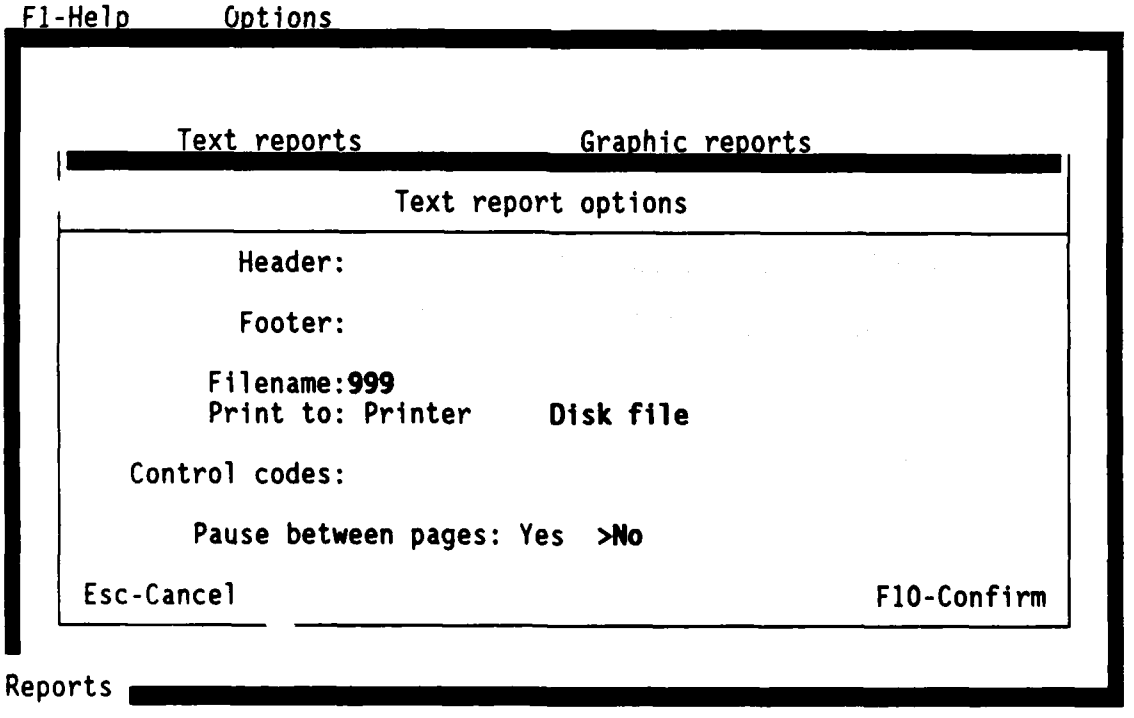


FIGURE 4. Test Report Options.

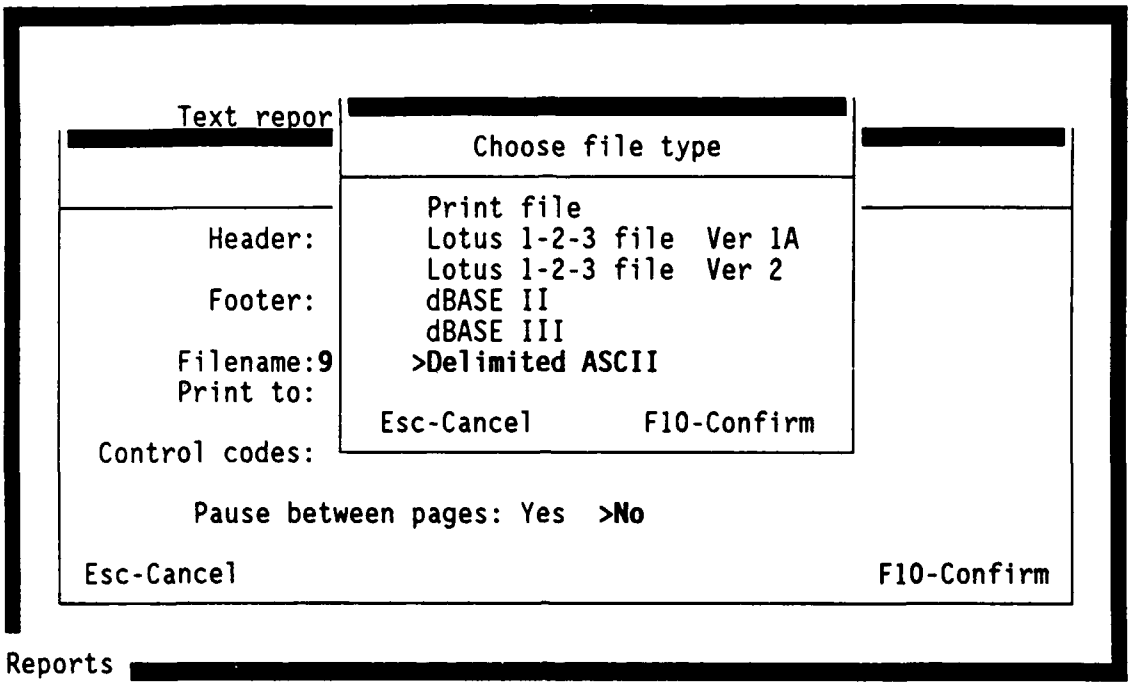


FIGURE 5. Choose File Type.

6. HTPM will inform you that it is preparing the data and writing it to the disk file. When this is complete, you will be returned to the Report's main screen. At this point, hit <Esc> to move you back to the HTPM main menu. Now you can exit: however, if you made any changes to the schedule you should save it, then exit. To exit from the HTPM main menu, enter "E".

END
DATE
9-88
DTIC